

PAPELES DEL PSICÓLOGO

PSYCHOLOGIST PAPERS

UNDÉCIMA EVALUACIÓN DE TEST EDITADOS EN ESPAÑA



EXTREMISMO Y RADICALIZACIÓN. EL PAPEL DE LA INDUSTRIA EN LAS CONDUCTAS ADICTIVAS. USOS Y ABUSOS DE LAS CUATRO CAUSAS ARISTOTÉLICAS EN PSICOLOGÍA. CUIDADOS SEGUROS EN LA INFANCIA BAJO TUTELA. TERAPIA DE ACEPTACIÓN Y RECUPERACIÓN POR NIVELES PARA LA PSICOSIS (ART).

Ámbito: Papeles del Psicólogo / Psychologist Papers es una revista científico-profesional, cuyo objetivo es publicar revisiones, meta-análisis, soluciones, descubrimientos, guías, experiencias y métodos de utilidad para abordar problemas y cuestiones que surgen en la práctica profesional de cualquier área de la psicología. Se ofrece también como foro para contrastar opiniones y fomentar el debate sobre enfoques o cuestiones que suscitan controversia. Los autores pueden ser académicos o profesionales, y se incluyen tanto trabajos por invitación o recibidos de manera tradicional. Todas las decisiones se toman mediante un proceso de revisión anónimo y riguroso, con el fin de asegurar que los trabajos reflejan los planteamientos y las aplicaciones prácticas más novedosas.

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Article

Eleventh Review of Tests Published in Spain

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ABSTRACT

Psychological tests are essential tools in applied psychology, widely used in various contexts to support decisions. In Spain, the Test Commission of the General Council of the Spanish Psychological Association has led the evaluation of tests since 2010 using the Test Evaluation Questionnaire-Revised (CET-R). This study presents the results of the eleventh edition (2022-2024), in which seven tests were evaluated: six from different publishing houses and one non-commercial test. Additionally, it compares the reporting of information and psychometric quality of tests published before and after the implementation of this evaluation system. The results of the eleventh evaluation show that commercially available tests, especially ones that have been published or updated recently, generally receive higher ratings. Regarding the reporting of information, findings indicate an increase in the inclusion of properties such as differential item functioning and temporal stability, although no statistically significant improvements were observed in quality scores. Overall, the system fosters the continuous improvement of tests by promoting their technical updates and strengthening transparency and confidence in the instruments used by psychologists.

Undécima Evaluación de Test Editados en España

RESUMEN

Los test psicológicos son herramientas esenciales en la psicología aplicada, utilizadas en diversos contextos para respaldar decisiones. En España, la Comisión de Test del Consejo General de la Psicología lidera la evaluación de pruebas desde 2010 mediante el Cuestionario para la Evaluación de Test-Revisado (CET-R). Este trabajo presenta los resultados de la undécima edición (2022-2024), en la que se han evaluado siete test: seis de diferentes casas editoriales y un test no comercial. Además, se compara el reporte de información y calidad psicométrica de los test editados antes y después del inicio de la implementación de este sistema de evaluación. Los resultados de la undécima evaluación muestran que los test comerciales y publicados o actualizados más recientemente presentan, en general, mejores valoraciones. Respecto a la comparación en la información reportada, los resultados muestran un aumento en el reporte de propiedades como el funcionamiento diferencial de los ítems y la estabilidad temporal, aunque no se observaron mejoras estadísticamente significativas en las puntuaciones de calidad. En general, el sistema fomenta la mejora continua de los test, promoviendo su actualización técnica y fortaleciendo la transparencia y confianza en los instrumentos utilizados por los psicólogos.

Palabras clave

Test
Evaluación de test
Psicometría
Propiedades psicométricas
CET-R

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Introduction

Psychological tests are fundamental tools in the professional practice of psychology, frequently used to support decisions in various fields such as clinical, educational, organizational, and health psychology. These tests allow us to diagnose, select, guide, and adapt interventions, and their value lies in their standardized nature and the strength of their psychometric properties, which provide accuracy and confidence in the results (Muñiz et al., 2020). However, due to the large number of tests available and the important consequences that can result from their applications, it is essential that psychologists have access to verified and detailed information on the quality of these instruments in order to choose the most appropriate ones in each assessment context.

In response to this need, international bodies, such as the American Psychological Association (APA), together with the American Educational Research Association (AERA) and the National Council on Measurement in Education (NCME), have developed rigorous standards to ensure the quality and appropriate use of tests (AERA, APA, & NCME, 2014). Others, such as the International Test Commission (ITC), have developed guidelines on test translation and adaptation (Hernández et al., 2020; ITC, 2017; Muñiz et al., 2013), and on test use in general (ITC, 2013) and in specific domains (e.g., research: ITC, 2014; digital environments: ITC and Association of Test Publishers, 2022). Regarding test quality assessment, in Europe, the European Federation of Psychologists' Associations (EFPA) has developed and implemented a comprehensive evaluation model to assess the validity and reliability of the inferences drawn from tests used in the region (Evers et al., 2013), which is currently being updated (Schittekatte & Evans, 2023). In the Spanish context, the Test Commission of the General Council of the Spanish Psychological Association (COP) has taken the lead in the systematic review of tests published in Spain since 2010 (Hernández et al., 2022). This initiative arose in response to the demand of psychologists for independent evaluations that provide technical and practical information on the quality of the instruments they use in their daily practice (Muñiz et al., 2011; Hernández et al., 2016). To carry out these reviews, the Test Evaluation Questionnaire (CET in Spanish) has been used, which was initially developed by Prieto and Muñiz (2000) and has been modified on several occasions to align with European models and to incorporate the most current technological advances and psychometric analysis practices (Hernández et al., 2016).

To date, multiple editions of the test review have been carried out in Spain, each of which has resulted in the publication of detailed reports accessible to professionals through the COP website (<https://www.cop.es/test/>). The importance of these reviews is evident in the results of studies such as those of Muñiz et al. (2020), which show a growing use of tests by Spanish psychologists, who positively value their usefulness for decision making in diverse contexts. However, they also stress the need for more technical information to enable them to make evidence-based decisions on the suitability of tests for specific uses. In this regard, only 22.5% of the licensed psychologists surveyed in the study by Muñiz et al. stated that they were aware of the annual evaluation carried out by the Test Commission, although those who were aware considered these evaluations to be useful and necessary, and stated that they

consult the reports to decide which tests to use in their professional practice (Muñiz et al., 2020). Beyond the benefits that this evaluation process offers to psychologists applying tests, it is also desirable that it contributes to improving the quality of the tests themselves—encouraging ongoing development in their construction, updating, and application.

This manuscript presents, firstly, the results from the eleventh edition of the evaluation of tests published in Spain, conducted between 2022 and 2024. Secondly, it presents the findings from a comparative analysis of the information reported and the psychometric quality of the tests before and after the implementation of the test evaluation system.

Eleventh Test Review

This section outlines the tests that were evaluated, the evaluation procedure followed, the individuals who participated as reviewers, and the main results of the eleventh review of tests published in Spain.

Tests Submitted for Evaluation

Following the procedure adopted in previous editions, the publishers represented on the Test Commission (i.e., Editorial CEPE, Giunti Psychometrics, Hogrefe TEA Ediciones, and Pearson Clinical Assessment Spain) proposed to the commission the six tests they wished to submit for evaluation. Additionally, the Test Commission agreed to include a seventh test that has not been commercialized in Spain, the revised version of the Conflict Tactics Scales (CTS-2; Straus et al., 1996), adapted to Spanish by Loinaz (2009) and validated in the work of Loinaz and colleagues (Loinaz et al., 2012).

In accordance with this approach, seven tests have been evaluated in this eleventh edition, covering different areas of applied psychology, such as clinical, educational, forensic, and work and organizational psychology, as well as other areas such as neuropsychology or research. Table 1 lists the seven instruments submitted for review, six of which are commercially available through publishing companies.

Selection of Reviewers

Building on previous editions of the test evaluation process, and with the aim of assigning to each test one reviewer with expertise in technical and psychometric aspects and another with experience in the variables assessed by the tests, potential reviewers were sought by combining several search strategies. For the identification of experts in psychometrics, (a) the lists of reviewers of the ten previous editions of the test review published in *Papeles del Psicólogo* were consulted (Abad, 2024; Elosua & Geisinger, 2016; Fonseca & Muñiz, 2017; Gómez-Sánchez, 2019; Hernández et al., 2015; Hidalgo & Hernández, 2019; Lozano, 2023; Muñiz et al., 2011; Ponsoda & Hontangas, 2013; Viladrich et al., 2021); (b) contact information was extracted for members of the European Association of Methodology (EAM) with Spanish affiliation (download date from the association's website: June 30, 2022); and, finally, (c) the list was supplemented by other researchers with expertise in psychometrics and methodology, identified within the coordinators'

Table 1*List of the Measuring Instruments of the Eleventh Edition of the Test Review*

Acronym	Test	Publisher	Author(s)	Year of publication/update
BESS	<i>Sistema de cribado conductual y emocional del BASC-3</i> [BASC-3 behavioral and emotional screening system].	Pearson Education	Pearson Clinical & Talent Assessment R&D Department, A. Hernández, È. Paradell, & F. Vallar	2022
CTC-R	<i>Cuestionario TEA Clínico - Revisado</i> [Clinical TEA Questionnaire - Revised]	Hogrefe TEA Editions	D. Arribas, S. Corral, & J. Pereña	2022
CTS-2	<i>Versión revisada de la Conflict Tactics Scales</i> [Revised version of the Conflict Tactics Scales]	--	I. Loinaz, E. Echeburúa, M. Ortiz-Tallo, & P. J. Amor	2012
CUMANIN-2	<i>Cuestionario de madurez neuropsicológica infantil-2</i> [Child Neuropsychological Maturity Questionnaire-2]	Hogrefe TEA Editions	J. A. Portellano, R. Mateos, R. Martínez-Arias, F. Sánchez-Sánchez	2021
MASC2	<i>Escala de Ansiedad Multidimensional para Niños/as</i> [Multidimensional Anxiety Scale for Children]	Giunti Psychometrics Spain	R&D Team - Giunti Psychometrics Spain, A. Martínez, J. Miralles, & I. de Ancos	2022
SRP 4	<i>Escala de Psicopatía</i> [Psychopathy Scale]	Giunti Psychometrics Spain	R&D Team - Giunti Psychometrics Spain, A. Martínez, J. Miralles, & I. de Ancos	2021
T.A.L.E.	<i>Test de análisis de lectoescritura</i> [Literacy analysis test]	Machado Grupo de Distribución, S.L. [Machado Distribution Group, a Spanish limited liability company]	J. Toro & M. Cervera	1984

network of contacts. In the case of the experts in the construct, for their identification, (a) the lists of reviewers of previous editions were also consulted; and (b) searches were made in electronic databases using, on the one hand, the name of the test and, on the other, the construct measured by each of the tests. An initial group of 14 reviewers was contacted (i.e., 7 psychometricians and 7 construct experts), of whom 28.6% (i.e., 4 psychometricians) accepted the invitation in the first round; vacancies were subsequently filled with new reviewers. A second round of invitations was issued to cover the remaining positions, which enabled full coverage of psychometric experts for all tests. However, multiple attempts were needed to secure the participation of construct experts in the review process. Specifically, whereas 11 researchers were contacted to cover the psychometrician profile, 17 were contacted to fill the profile of construct experts. Table 2 presents the list of reviewers who participated in the eleventh test review.

Evaluation Instrument: The CET-R V1.1

For the evaluation of the tests, the Revised Test Evaluation Questionnaire (CET-R; Hernández et al., 2016), specifically designed to describe and evaluate the technical and psychometric quality of tests, was used in its most current version (i.e., version V1.1, available on the COP website: <https://www.cop.es/test/>). Abad's work (2024) describes in detail the structure of the instrument in sections (i.e., General description of the test, Assessment of test characteristics, and Global assessment of the test), the aspects of the test evaluated in each section—either by means of open or closed questions—as well as the scoring system and the corresponding labels of the quantitative items. In this latest version of the instrument, which was already used in Abad (2024), significant improvements have been introduced, such as (1) a clearer distinction between information that is essential for assessing the quality of a test and that which, although absent, is not essential

Table 2*List of Reviewers of the Eleventh test Review*

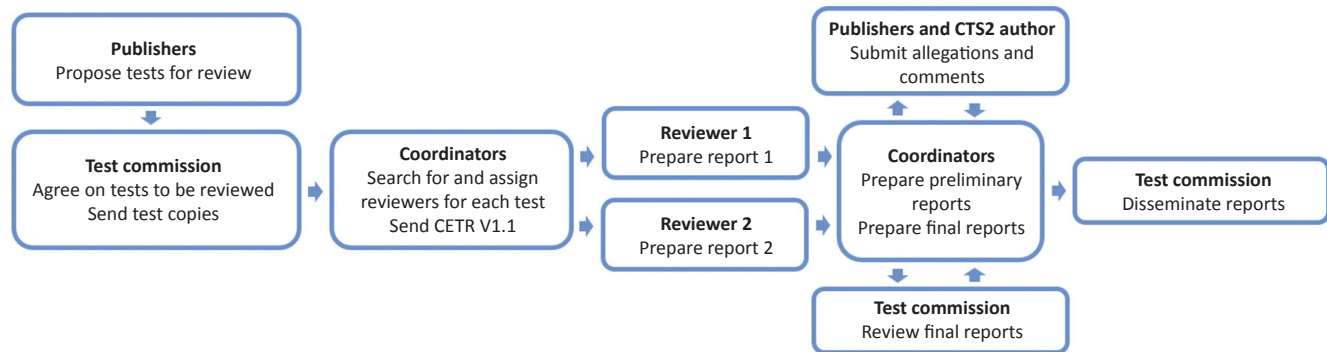
Name and surname	Affiliation
Jone Aliri Lazcano	Universidad del País Vasco - Euskal Herriko Unibertsitatea (UPV - EHU)
Isabel Benítez Baena	Universidad de Granada (UGR)
Carlos García Forero	Universitat Internacional de Catalunya (UIC)
Ana Martina Greco	Universitat Oberta de Catalunya (UOC)
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Susana Sanduvete	Universidad de Sevilla (US)
Paz Suárez Coalla	Universidad de Oviedo (UniOvi)
Jorge Torres Marín	Universidad de Granada (UGR)
Rafael Torrubia Beltri	Universitat Autònoma de Barcelona (UAB)

given the purpose of the test; (2) more specific criteria for tests adapted from other languages and/or cultures, in which reviewers are asked to indicate the origin of the samples (i.e., local, international, or mixed), (3) guidelines for assessing the Area Under the Curve (AUC) in the use of ROC curves, a key aspect in the prediction of diagnostic criteria.

Evaluation Process

With regard to the six tests that are commercially available, once the reviewers agreed to participate, the administrative staff of the COP coordinated the distribution of the test materials to

Figure 1
Test Review Procedure Followed in the Eleventh Edition



each of the two reviewers, as well as to those responsible for coordinating the evaluation process. At the same time, the coordinator of the Test Committee sent the contact details of the representatives of the publishers and the CET-R V1.1 to the coordinators of this edition of the test review. In the case of the Spanish version of the CTS-2, since it is not commercially available, a multi-step literature search was conducted to locate relevant materials. First, studies citing the Spanish validation study (Loinaz et al., 2012) were identified in Scopus ($n = 43$) and Web of Science ($n = 45$) [search completed in July 2022]. Second, publications with the term “Conflict Tactics Scales-2” in the title, abstract, or keywords were searched in Scopus ($n = 63$) and Web of Science ($n = 18$) [also in July 2022]. After reviewing the titles and abstracts—and, when necessary, the full texts—publications that the coordinators judged to contain relevant information for assessing the test's quality were retained (e.g., empirical studies and reviews on the psychometric properties of the scale). Third, from examining the list of references of the selected studies, seven additional relevant papers were identified (i.e., Corral & Calvete, 2006; Espejo-Navarro & Valdivia-Ramírez, 2023; Gallego Rodríguez & Fernández-González, 2019; Graña et al., 2013; Loinaz, 2009; Muñoz-Sánchez, 2018; Redondo & Graña, 2015). This literature search process ended with the creation of a list of 50 papers, mostly articles that employed the Spanish version of the STS-2, although it also included articles on the original English version (e.g., Straus et al., 1996), as well as reviews of the psychometric properties of the scale (e.g., Chapman & Gillespie, 2019). This documentation was provided to the two reviewers assigned to evaluate the STS-2.

After receipt of the documentation, the reviewers proceeded to evaluate the test independently through the CET-R V1.1. Reviewer reports were submitted through April 2023. For each test, the coordinators synthesized the evaluations of the two assigned reviewers and prepared preliminary reports, which were sent to the publishers and the corresponding author of the validation study of the Spanish version of the CTS-2 to provide them with the opportunity to present arguments. Finally, the coordinators prepared the final reports, which were reviewed by a member of the Test Commission. Their suggestions, mainly stylistic and clarifying, were incorporated for the publication of the final version of the reports on the COP website in May 2024. Figure 1 shows an outline of the test review procedure followed in the eleventh edition.

Results

Table 3 shows the scores resulting from the review process for the various tests together with the average score for all the characteristics assessed. In general, all mean scores reflect good to excellent ratings for the most recently published or updated commercial tests. In contrast, the CTS-2—a non-commercial test—and the T.A.L.E.—which has not been updated in the last four decades—show inadequate scores or, at best, adequate but with shortcomings.

Comparative Analysis of Data Reporting and Test Quality Before and After the Start of the Evaluation Process

Objective

As noted, the review process for tests published in Spain, led by the COP Test Commission, was established to address one of the main demands of professional psychologists: to provide technical information that facilitates informed decision making. After completing eleven review processes, we proposed the possibility of comparatively analyzing the information report and the quality of the tests published before and after the start of the review system, taking into account the results of having applied the CET, in its different versions, throughout the eleven editions. The underlying assumption is that the introduction of the review system should have had an impact at two levels. Firstly, it was expected that more information would be reported about the psychometric properties of the tests. Secondly, the tests themselves would receive improved ratings, given that test developers are expected—albeit gradually—to take into account the standards and recommendations put forward by the Test Commission. Specifically, this study explores to what extent the implementation of the review system has led to an increase in (1) the amount of information provided regarding the psychometric characteristics of the tests (the quantity of information), and (2) the scores on each of the test characteristics evaluated (the quality of the tests).

Procedure

Scores were extracted from the 96 reports available on the Test Commission website from the ten editions completed to date, to which were added those corresponding to the seven tests of the

Table 3*Scores of the Tests Evaluated in the Eleventh Edition*

Characteristics	BESS	CTC-R	CTS-2	CUMANIN-2	MASC2	SRP4	T.A.L.E.
Development							
Materials and documentation	4.5	5	-	5	4.5	3.8	4
Theoretical foundation	4	5	3	4	4	5	1
Adaptation	4	-	3	-	3	3	-
Item analysis	-	4	4	5	4	-	2
Validity							
Content	4	4	2.5	4.5	3	3.5	1.5
Relationship with other variables	3.9	4.4	2.6	4.2	4	3.8	-
Internal structure	2	4.5	2	5	4	3	-
DIF Analysis	-	5	-	5	5	-	-
Reliability							
Equivalence	-	-	-	-	-	-	-
Internal consistency	3.3	5	3	5	4	3.8	-
Stability	3.5	3.5	2	4.3	3.5	2.3	-
IRT	-	-	-	3	4	-	-
Inter-rater	-	-	-	-	-	-	-
Scales and interpretation of scores	4	5	3	5	3.5	3	1.7
Total	3.7	4.5	2.8	4.5	3.9	3.5	2.0

Note: DIF: differential item functioning; IRT: item response theory. The scores correspond to a five-point rating scale, where: 1 = Inadequate, 2 = Adequate with some deficiencies, 3 = Adequate, 4 = Good, and 5 = Excellent. The symbol (-) indicates that no information is provided or it is not applicable due to the characteristics of the test.

present edition, resulting in a total of 103 reports. The three tests that are not commercially available were excluded from the analysis: the *Escala de Predicción del riesgo de Violencia grave contra la pareja-Revisada* [Severe Intimate Partner Violence Risk Prediction Scale-Revised] (EPV-R; Echeburúa et al., 2010), the Geriatric Depression Scale - short version (GDS; Martínez de la Iglesia et al., 2002, 2005), and the Revised Conflict Tactics Scales (CTS-2; Loinaz, 2009; Loinaz et al., 2012).

The tests were classified as follows into three categories according to their year of publication or most recent update date: (1) the period prior to the start of the test review process by the Test Commission, which included tests published up to 2011, the year in which the results of the first edition were published (i.e., Muñoz et al., 2011); (2) the adaptation period, defined as a two-year time interval during which test developers had the opportunity to familiarize themselves with and adjust to the standards and criteria outlined in the evaluation model, which included tests published in 2012 and 2013; and (3) the period following the implementation of the test review process, which included tests published from 2014 onwards. This classification yielded data for tests published before ($n = 39$) and after ($n = 50$) the start of the test review process, the ratings of which were included in the comparative study (see Figure 2).

From each report, information was extracted from the general assessment of the respective tests (General assessment section of the CET V1.1), which includes 14 characteristics (see Table 3, Characteristics column). For each characteristic or psychometric property, two pieces of information were coded: first, whether the characteristic was reported or not (Reported vs. Not Reported), and second, the specific score assigned to that characteristic (numerical value from 0 to 5). Given that the CET model used across the successive editions has undergone some modifications, the 14 characteristics of the most current version of the CET-R (i.e., CET-R V1.1) were used as the baseline model. For most of the characteristics, there was a direct correspondence between the versions used in the different reports (e.g., evidence based on

content). However, for some characteristics, a correspondence between reports had to be established (for example, "Factor analysis results" were categorized under "Validity: internal structure" and "Predictive validity" under "Validity: relationships with other variables"), which in some cases required the calculation of average scores.

In the comparison of reported information (i.e., Reported vs. Not reported) between the periods before and after the implementation of the review system, the χ^2 test was applied, accompanied by the ϕ coefficient as a measure of effect size. As regards the comparative study of test quality, the Mann-Whitney U test was applied to the scores received for each characteristic or psychometric property, and the effect size η^2 was calculated. The database and syntax used in this analysis can be found at the following link: <https://osf.io/t43gf/>.

Results

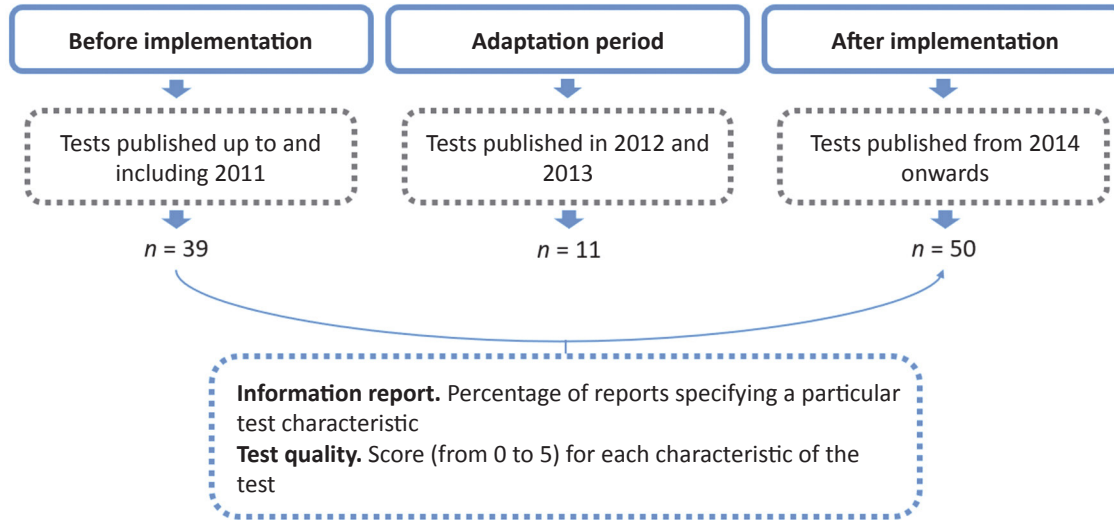
Information reporting. As shown in Table 4, it was observed that, regardless of the score obtained, the tests published after the introduction of the review process present a higher percentage of information regarding some psychometric properties (e.g., differential item functioning and temporal stability).

Quality of the tests. Table 4 presents the average scores obtained before and after the implementation of the review system, along with the value of the statistic and its corresponding effect size. Although for several of the characteristics analyzed the average score range was higher in the tests published after the implementation of the evaluation process, the Mann-Whitney U test was not statistically significant in any case (see Table 4).

While this comparative analysis may encourage reflection on the test review process, it is not without limitations. One of the main challenges during the extraction of data from each of the test reports was the need to make adjustments due to changes in the different versions of the CET, which consequently affected how information was recorded in the reports. These changes required modifications

Figure 2

Outline of the Procedure Used in the Comparison Between the Periods Before and After the Implementation of the Test Review System



to extract the information and scores corresponding to the 14 characteristics of the General Assessment. For example, in the first reports for the first and second test evaluations, it was not possible to extract a score for 'Validity: Internal Structure'. Similarly, in the reports for the third and fourth round of reviews, the 'Construct Validity' section included analysis of internal structure, group comparison, convergent and discriminant evidence, among other aspects. However, in the most recent versions of the CET, this section was divided into 'Validity: Internal Structure' and 'Validity: Relationships to Other Variables', which made it necessary to assign this characteristic the score of 'Factor Analysis Results'. Additionally,

some psychometric characteristics and analyses, such as 'Reliability: IRT' and 'Inter-rater reliability', were incorporated into the CET at later stages. Although it is possible that the description and assessment of these aspects were included in the open-ended sections of the reports, the present comparative analysis did not incorporate the information contained in such sections. Finally, the adaptation period was set at two years. However, this time may be insufficient for test developers to have become familiar with and adjust to the new requirements. These limitations highlight the need to consider possible biases or shortcomings when interpreting the results obtained in the present work.

Table 4Comparison of Information Reporting and test Quality Between the Period Before ($n = 39$) and After ($n = 50$) the Implementation of the Test Review System

Characteristics	Report (% Yes)					Quality (Average)				
	Before implementation	After implementation	χ^2 (g.l.)	p value	ϕ	Before implementation	After implementation	ZU	p value	η^2
Development										
Materials and documentation	100	100	-	-	-	4.2	4.4	-1.364	.172	0.02
Theoretical foundation	100	100	-	-	-	4.1	4.3	-1.005	.315	0.01
Adaptation	100	100	-	-	-	4.3	4.3	-0.219	.827	< 0.01
Item analysis	79.5	84.0	0.303(1)	.582	0.06	3.9	3.8	-0.582	.561	< 0.01
Validity										
Content	94.9	94.0	0.031(1)	.895	-0.02	3.8	3.9	-0.139	.890	< 0.01
Relationship with other variables	97.4	100	1.297(1)	.255	0.12	3.7	3.7	-0.173	.862	< 0.01
Internal structure	84.6	84.0	0.006(1)	.937	-0.01	3.8	3.7	-0.019	.985	< 0.01
DIF Analysis	10.3	30.0	5.087(1)	.024	0.24	4.4	4.1	0.000	1.000	0.00
Reliability										
Equivalence	100	100	-	-	-	3.7	3.5	-0.236	.814	0.01
Internal consistency	97.4	100	1.297(1)	.255	0.12	4.1	4.4	-1.892	.059	0.04
Stability	38.5	64.0	5.734(1)	.017	0.25	3.4	3.6	-0.469	.639	< 0.01
IRT	0.00	22.2	3.234(1)	.072	0.24	-	3.9	-	-	-
Inter-rater	-	100	-	-	-	-	4.3	-	-	-
Scales and interpretation of scores	94.9	100	2.623	.105	0.17	3.9	4.1	-1.321	.186	0.02

Note: DIF: differential item functioning; IRT: item response theory. The average quality scores correspond to a five-point rating scale, where: 1 = Inadequate, 2 = Adequate with some deficiencies, 3 = Adequate, 4 = Good, and 5 = Excellent. The symbol (-) indicates that no information is provided or it is not applicable due to the characteristics of the test.

Conclusions

Evaluation Procedure

The test review process, led by the COP Test Commission, follows a rigorous and systematic approach that guarantees the comprehensive evaluation of the psychometric and technical properties of the measurement instruments (Fernández-Ballesteros et al., 2001). This procedure has facilitated the integration, on the one hand, of the opinion of expert reviewers in psychometrics and in the variables evaluated by the tests and, on the other hand, of the recommendations and allegations of publishers and authors, which reinforces the quality of the published reports.

It is important to highlight that, although review teams were successfully assembled for all tests, the process revealed differences in the ease of recruiting psychometricians compared to construct experts. While the psychometrician profile was filled relatively quickly, recruiting construct experts required greater effort and multiple attempts, which may reflect a lower perceived importance of the process and the relevance of the review results in their professional practice. This finding underscores the need to implement specific strategies to attract and engage these specialists, given their critical role in the comprehensive evaluation of the instruments. Although the agreement between the reviewers—the psychometrician and the content expert—of the same test varies depending on the test characteristic evaluated (Abad, 2024), both profiles contribute to an accurate and comprehensive assessment. Finally, it is essential to intensify efforts to disseminate the CET-based test review process across the various applied fields of psychology (Muñiz et al., 2020).

The results obtained in this eleventh edition show that the most recently published or updated commercial tests achieve average ratings ranging from good to excellent. In contrast, the CTS-2—a non-commercial test—and the T.A.L.E.—which has not been revised in the last forty years—record scores that indicate inadequate ratings or, at best, adequate with some shortcomings. On one hand, it is important to consider that the review of non-commercial tests poses significant challenges, such as the lack of manuals and materials, as well as the dispersion of relevant information (Abad, 2024). Moreover, the heterogeneity of the studies in terms of design, sample size and composition, and methodological quality could be contributing to the variability observed in the ratings of the psychometric properties of these tests. In relation to the T.A.L.E., considering both its lack of updates and the quality results obtained, the use of more recent instruments is recommended for evaluating literacy. An example is the *Baterías de Evaluación Cognitiva de las Dificultades en la Lectura y Escritura* [Cognitive Assessment Batteries for Reading and Writing Difficulties] (BECOLE-R; Galve Manzano & Martínez Arias, 2019), which was evaluated in the ninth edition of the test review system (Lozano, 2023), obtaining average ratings between good and excellent.

Comparative Analysis of Data Reporting and Test Quality

In the comparison between the periods before and after the implementation of the test review process, there is evidence of a significant increase in the inclusion of certain psychometric characteristics in the manuals, specifically with regard to DIF and

temporal stability. However, the characteristics evaluated do not show statistically significant improvements in their quality scores.

Attributing these advances exclusively to the test evaluation process would be, at best, a risky conclusion, as multiple and varied factors could explain this trend. For example, the increase in DIF studies or in the use of IRT could reflect what has also happened at the international level. Possible factors include advances in computing and greater availability of user-friendly software that removes the need for advanced programming, as well as growing awareness of gender perspectives in research, which may have encouraged more studies on gender invariance. In addition, it is likely that test developers in Spain are more routinely incorporating CET standards, and that publishers are using CET as a model and aiming for the highest possible level, seeing it as an ideal quality standard. This approach could be motivated by the desire to obtain good ratings in reports and to present their tests as high quality products.

Be that as it may, it cannot be ruled out that this system of evaluation through the CET has incentivized the continuous updating of tests, encouraging publishers and authors to implement more advanced analyses and to strengthen the technical foundations of their instruments. These advances not only increase transparency and confidence in the quality of the tests available in Spain, but also facilitate informed decision-making by psychology professionals, thus contributing to a more rigorous and ethical practice of the profession.

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Conflict of Interest

There is no conflict of interest.

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Article

Extremism and Radicalisation. A Systematic Review of Empirical Evidence for Personality, Quest for Significance, Spirituality and Intolerance of Uncertainty

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ABSTRACT

Extremism and radicalisation pose significant threats to national security and socio-political stability, particularly in Western countries. Despite the extensive scientific literature addressing these phenomena from various perspectives, existing empirical research lacks cohesion due to differing theoretical models. This systematic review aims to unify recent empirical research on psychological factors associated with extremism and radicalisation, focusing on empirical studies across diverse cultural and socio-political contexts. Key findings indicate that certain personality traits—specifically, low openness to experience and high conscientiousness—may increase susceptibility to extremist beliefs. Additionally, quest for significance seems to stand out as a powerful motivator for radicalisation. Spirituality seems to play a complex role: it may mitigate or, conversely, amplify extremist tendencies, depending on interpretative frameworks and group dynamics. Intolerance of uncertainty is another critical factor, as individuals with low tolerance for ambiguity may be drawn to extremist ideologies that offer rigid, black-and-white perspectives. This review emphasises the importance of a comprehensive understanding of these psychological variables, which, altogether, suggest that both individual traits and contextual factors contribute to radicalisation pathways and extremism. The findings highlight opportunities for targeted interventions, suggesting directions for future research to develop more effective strategies for preventing radicalisation in clinical and community environments.

Extremismo y Radicalización. Revisión Sistemática de la Evidencia Empírica sobre Personalidad, Búsqueda de Significación, Espiritualidad e Intolerancia a la Incertidumbre


RESUMEN

Palabras clave

Revisión sistemática
Personalidad
Extremismo
Radicalización
Significación personal

El extremismo y la radicalización representan amenazas significativas para la seguridad nacional y la estabilidad sociopolítica, especialmente en países occidentales. Una cuestión relevante es como la investigación empírica existente carece de cohesión debido a la variedad de modelos teóricos empleados. El objetivo de esta revisión sistemática es tratar de unificar los resultados de investigaciones empíricas recientes sobre los factores psicológicos asociados con el extremismo y la radicalización, atendiendo a estudios realizados en contextos culturales y sociopolíticos diversos. Los resultados señalan que ciertos rasgos de personalidad - baja apertura a la experiencia y una alta responsabilidad -, pueden aumentar la probabilidad de creencias extremistas. Además, la búsqueda de significación personal destaca como un importante factor para la radicalización. La espiritualidad parece mitigar o, por el contrario, amplificar las tendencias extremistas. La intolerancia a la incertidumbre es otro factor crítico, especialmente para personas con alta necesidad de certeza. Los resultados de la revisión sugieren que tanto los rasgos individuales como los factores contextuales contribuyen a los procesos de radicalización y extremismo. Se subrayan las oportunidades para futuras intervenciones más específicas, señalando direcciones para futuras investigaciones con el fin de desarrollar estrategias más efectivas para prevenir la radicalización en entornos clínicos y comunitarios.

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Introduction

Extremism and Radicalisation

Far right surges in EU vote, topping polls in Germany, France, Austria (Al Jazeera, 2024); *A Far-Right Takeover of Europe Is Underway* (Vohra, 2024); *EU elections: earthquake in France and a rightward policy lurch?* (Lau et al., 2024). These are just but a few examples of the headings that appeared on some of the most famous international agencies after the results of the past European elections that took place on June 9th, 2024. There seems to be consensus in acknowledging the steady growth of the far-right across Europe, a fact that make some state “Wake up! After these elections, Europe is again in danger” (Garton Ash, 2024). This latest development in Europe’s politics seems just to confirm a global trend that could be considered to have started in 2016, with the election of Donald Trump as the 45th President of the United States (Fortunato et al., 2022; Rehman, 2017). But why does this resurgence of the far-right in Western countries, characterised by being consolidated liberal democracies (Our World in Data, 2024), a matter of concern by so many analysts and experts from different areas? (Reuters, 2023).

Two of the most frequently adjectives that usually accompany news and reflections about far-right are “extremists” and “radicals”. Sometimes, these qualificatives are even directly used for referring to these part of the political spectrum (Kondor & Littler, 2023; Youngblood, 2020), as if all could be used as synonyms that reflected the same reality. However, do we all know what we are talking about when using these two qualificatives?

Extremism and radicalisation have emerged as critical concerns in contemporary societies in its multiple possible manifestations, especially for its relationship with violence — i.e., terrorism (Kruglanski et al., 2014), political (Jasko et al., 2022), religious (Ahmed & Bashirov, 2020), racial (Williams et al., 2022) or nationalist (Tetrault, 2022). They pose multifaceted challenges to global stability, social cohesion, and individual well-being (Lösel et al., 2020).

According to Kruglanski et al. (2014), radicalisation is the process through which individuals or groups come to adopt increasingly extreme political, social, or religious ideologies that reject or undermine the status quo and can potentially lead to violence or other forms of conflict. Horgan (2009) proposes that radicalisation reflects “the social and psychological process of incrementally experienced commitment to extremist political or religious ideology” (p. 152). Similarly, Doosje et al. (2016) define radicalisation as “a process through which people become increasingly motivated to use violent means against members of an out-group or symbolic targets to achieve behavioural change and political goals” (p. 79). Finally, a more recent definition of radicalisation is the one provided by Trimbur et al. (2021) in their systematic review, where they conceptualise it as dynamic process comprised by different stages (which can be represented in specific models — i.e., as a pyramid or staircase) which would go from radical feelings to radical behaviours. As it can be observed, all the provided definition of radicalisation shares the conceptualisation that it is a process in which different levels or stages can be identified.

At the end of the radicalisation process, extremism would arise. There exist many different definitions of extremism, as there is still

lack of consensus regarding a universally accepted definition (due to the ideological connections that the term unavoidably has; Hogg et al., 2013; Lowe, 2017). For the present study, the definition of extremism that has been considered more adequate according to the available empirical evidence is the one provided by Klein and Kruglanski (2013, p. 421), and which comprises two complementary elements:

- (1) Deviation from a behavioural norm. Extremism needs to be compared to the “central norms” that are accepted into a society in a given historical moment (Berger, 2018). That is to say that, without a social background to compare, it is not possible to establish the existence of extremism. According to this first component of extremism definition, it can be observed one of the main difficulties in defining it, as what it may be regarded as deviated from a central norm in one society, may well be “normal” in another (Stancato & Keltner, 2021). Therefore, the major conflict resides in the existing hardship for translating what is understood as extreme between societies.
- (2) Zeal, intensity, or attitude polarity. This reflects the reality in which a given need (i.e., quest for significance) gain such level of intensity that completely eclipse any other basic concern (even those that basic as the self-preservation instinct, in the case for instance of suicide terrorists; Kruglanski et al., 2009). When there is a disproportional investment of personal resources in that particular need, there is simultaneously a conscious or unconscious inhibition of alternative needs (Jasko et al., 2020a). This implies that, the counterbalance that these alternative needs exercise one over the others disappears, freeing resources (both material and psychological) and widening therefore the options that may be considered as adequate or effective for the focal need (Kruglanski & Ellenberg, 2020).

Taking into consideration the provided definitions of radicalisation and extremism, from here onwards, the first will be understood as a process, whilst the second would be represented as a state. Once that the effort of establishing the frame of what it is most widely accepted for radicalisation and extremism, next logical step is to try to uncover other variables that may be related with them and which could explain both their appearance and development with time, as well as the different existing degrees in commitment and involvement. Extremism and radicalisation are two of the most pressing social challenges that are present in current societies around the world (Gutzwiller-Helfenfinger et al., 2022; Trip et al., 2019), reason why gaining such knowledge of the underlying related factors may mean a key difference in how these societies may adequately face them.

These factors could include socioeconomic disparities, political grievances, identity crisis or psychological causes. They could therefore be related to different social and individual levels. Scientific research underscores the gravity of these issues, highlighting the cognitive, psychological, and social mechanisms underpinning radicalisation, as well as the imperative for comprehensive approaches encompassing prevention, intervention, and rehabilitation strategies (Bélanger et al., 2019). For the present study the focus was set in variables that, independently, have

already shown some kind of relevant relationship with extremism and/or radicalisation: quest for significance, intolerance of uncertainty, personality traits and spirituality.

Definition of Variables and Their Relationship With Extremism/Radicalisation

As [Dalgaard-Nielsen \(2010\)](#) stated, there is no single event or even a prevalent set of motivations causing radicalisation at the individual level. Therefore, is the result of the interaction of sundries causes of any type (individual, social or political, among others).

As it is not possible to embrace each risk factor that showed evidence, the search has been reduced specifically to psychological factors that could ease the path to extremism and radicalisation. Some of the most relevant psychological causes that scientific literature shows as related to these two processes are spirituality/religiousness ([Gómez et al., 2022](#)), personality traits ([Meiza, 2023](#); [Morgades-Bamba et al., 2020](#); [Rottweiler & Gill, 2022](#)), quest for significance ([Milla et al., 2022](#)) and intolerance to uncertainty ([Gotzsche-Astrup, 2019, 2020](#)). They will be therefore explained.

Spirituality refers to an individual's sense of connection to something greater than themselves, which can involve a search for meaning in life, a sense of purpose, or a connection to the sacred or transcendent ([Koenig, 2012](#)). Related to spirituality and conceptually included within it, religiousness refers to the degree to which an individual is involved in, committed to, or believes in a concrete religious' faith or practice ([Koenig et al., 2001](#)). According to these definitions, religiousness could be spirituality adjusted to an established system of faith, beliefs and behaviours. Religiousness and extremism are complexly intertwined, with the former sometimes serving as a framework for the latter ([Bélanger et al., 2019](#); [Wibisono et al., 2019](#)), providing a fertile ground for extremist ideologies. Extremism often exploits religious doctrines to justify radical beliefs and actions, manipulating sacred texts to validate violence and intolerance ([Hogg & Adelman, 2013](#)).

Another variable that has been widely researched in scientific literature in relation to extremism and radicalisation is personality. By personality it is understood those individual traits that reflect stable and temporally coherent characteristics that define and guide an individual's behaviour, emotional state and general mindset ([American Psychiatric Association \[APA\], 2013](#)). Currently there are many different theoretical models of personality, that aim to provide a conceptual framework for its understanding (i.e., Big Five Model, HEXACO, PEN model). However, not all those models have the same amount of empirical evidence supporting them. As [Altungy et al. \(2025\)](#) highlighted, it is the Big Five Model of personality the one that, since the 90s', counts with significantly more empirical research. Therefore, this is the personality model and, more specifically, [Costa and McCrae \(1985\)](#) proposal, the chosen one as reference for the present review. The [Costa and McCrae \(1985\)](#) Big Five Model classifies personality in five main traits (Neuroticism, Extraversion, Agreeableness, Openness, Conscientiousness) and six factors per each trait. It is also this personality model the one that has been most widely used in the scientific literature for researching its possible explanatory capacity for extremism and radicalisation process, with the latest reviews suggesting that personality traits would represent significant

vulnerability factors to extremism and radicalisation ([Corner et al., 2021](#); [Morgades-Bamba et al., 2020](#)).

Regarding a variable that has been already mentioned before, significance quest could be understood as “the desire to matter, to feel worthy and appreciated by others whose positive regard one seeks” ([Kruglanski et al., 2022b](#)). It is a motivational force that can drive individuals toward various goals, including those that align with extremist ideologies when they promise to restore or enhance one's sense of significance ([Kruglanski et al., 2018](#)). In the last decade, significance quest has arisen as one of the most prominent variables for trying to explain why people may be attracted towards extreme attitudes and behaviours, initially focused on terrorism ([Kruglanski & Orehek, 2011](#); [Kruglanski et al., 2014](#)) and, lately, in other examples of radical conceptualisations, such as political activism ([Jasko et al., 2019](#)), moral foundation ([Hasbrouck, 2020](#)), ethnonationalism ([Whitehead et al., 2018](#)) or sports ([Chirico et al., 2021](#)). A specific model that has significance quest as the pivotal variable for explaining extremism is the 3N model ([Bélanger et al., 2019](#); [Kruglanski et al., 2022a](#)), which states that every radical/extremism endorsement requires a need activation (restore or increase significance), a narrative (that supports an extreme behaviour — i.e., violence — as an adequate mean for significance restoration) and a network (that creates and validates the narrative and which serves as the reference point for the individual). Regardless of these different examples, in all cases the empirical evidence seems to prove that significance quest is a fundamental variable for understanding people's attachment towards extremist behaviours and/or attitudes.

Lastly, intolerance to uncertainty is a concept that has gained significant recognition in the last decade. [Carleton et al. \(2016\)](#) defined it as the inability to tolerate aversive reactions generated by the perceived lack of information in a situation and maintained by the associated perception of uncertainty. Individuals who experience high levels of intolerance to uncertainty often find ambiguous situations distressing and strive to reduce this discomfort by seeking certainty and predictability. In uncertainty-identity theory ([Hogg, 2014](#)) the feeling of uncertainty about oneself can be extremely aversive and suffocating, thus it threatens the predictability and stability of life. Scientific literature indicates that the relationship between uncertainty and extremism lies in the fact that group membership, particularly within radical groups, provides a structured environment that offers a heightened sense of control and predictability ([Gotzsche-Astrup, 2019](#)). This sense of control provided both by the membership, but also by its extremist attitudes would significantly reduce the feelings of uncertainty that members might otherwise experience ([Landau et al., 2012](#)). Radical groups typically exhibit strong structuration and rigid hierarchies, which clearly delineate roles, norms, and expectations. This organizational structure offers members a clear roadmap for behaviour and beliefs, thus mitigating the discomfort associated with uncertainty ([Gotzsche-Astrup, 2019](#)).

Aim of the Review

As it has been indicated, the previous variables have been analysed in relation to both extremism and radicalisation. However, up today, there is no systematic review that the authors of the present study are aware that synthesises together the findings available regarding these variables. This is considered as an

important task, as the prerequisite for developing empirical studies that take into consideration all these variables together to continue disclosing the reasons and possible explanations for engagement in radicalisation processes and its end, extremism, a fundamental step for developing valid and accurate prevention and intervention programs.

Method

Search Strategy and Data Abstraction

The current systematic review was performed along February and March 2025. We sought for peer-reviewed articles written in English published from January 1, 2019, until December 31, 2024. PRISMA 2020 guidelines for systematic reviews (Page et al., 2021) were fulfilled.

In order to guarantee search replicability, the whole boolean syntax was: ((TI=(extremi*) OR TI=(radical*)) AND ((TI=(intolerance of uncertainty)) OR TI=(quest for significance) OR TI=(significance quest) OR TI=(personality) OR TI=(spiritual*))).

Evidence Acquisition

Studies were identified through a search in multiple databases, namely Web of Science, Scopus, ProQuest and PubMed, requesting the Full Text option. To avoid publication bias, these searches were supplemented with a manual search. Ancestral and forward searches were also conducted by examining bibliographies and locating studies citing each of the identified articles. For analysing the suitability of the obtained studies, researchers used *Rayyan*© software, which allowed an independent analysis by the different researchers based on inclusion/exclusion criteria providing comments for a second review, as well as the detection of duplicated studies.

Inclusion Criteria

For the present systematic review, studies that meet the following criteria were included: (1) have been published in the last six years (2019-2024); (2) include in the title the terms *extremis** AND/OR *radical** AND/OR *personality/spirituality/significance quest/quest for significance/intolerance of uncertainty/uncertainty*; (3) were empirical studies. The rationale for these inclusion criteria was: (1) locate the most recent evidence found in relation to the aim of the current systematic review, (2) cover all the key variables for the goal of the study.

Exclusion Criteria

Reviewers considered the following exclusion criteria for the results: (1) case studies; (2) studies that were in a language different from English; (3) studies with no full-text availability (no open access or no accessible through the authors institutional databases); (4) studies that addressed personality disorders as the main independent variable/predictor. The rationale behind this was: (1) the goal to the present review is to focus on empirical research with groups and/or population samples; (2) personality disorders are

beyond the scope of the current systematic review (although it might be relevant for future research).

A total of 169 studies, published between 2019 and 2024, were identified from all databases and search methods. 62 duplicate studies were initially excluded. The abstracts of the remaining 107 studies were assessed, excluding 79 in this phase. After exhaustingly examining the abstract, 26 articles were thought for retrieval, not finding 2 of them. The remaining 24 reports were assessed for eligibility. 11 were excluded because they were non empirical, reviewers could not find the full text of 2 of them, and another 2 were not in English. On the other hand, a total of 17 studies were identified via other methods: 2 by findings and 15 by citation searching in systematic reviews and meta-analyses. One report was not retrieved, leaving 16 reports sought for retrieval. Of the 14 reports assessed for eligibility, 2 reports were excluded because the year publication was out of our age range (prior to 2019), 4 reports were not relevant to research questions, and 1 has not yet been published. Ultimately, 16 studies compose our systematic review (Fig. 1).

Assessment of Methodological Quality

Critical appraisal of the methodological quality of studies was undertaken using McMaster Critical Review Form — Qualitative Studies (Version 2.0) (Letts et al., 2007). View Appendix 1.

Results

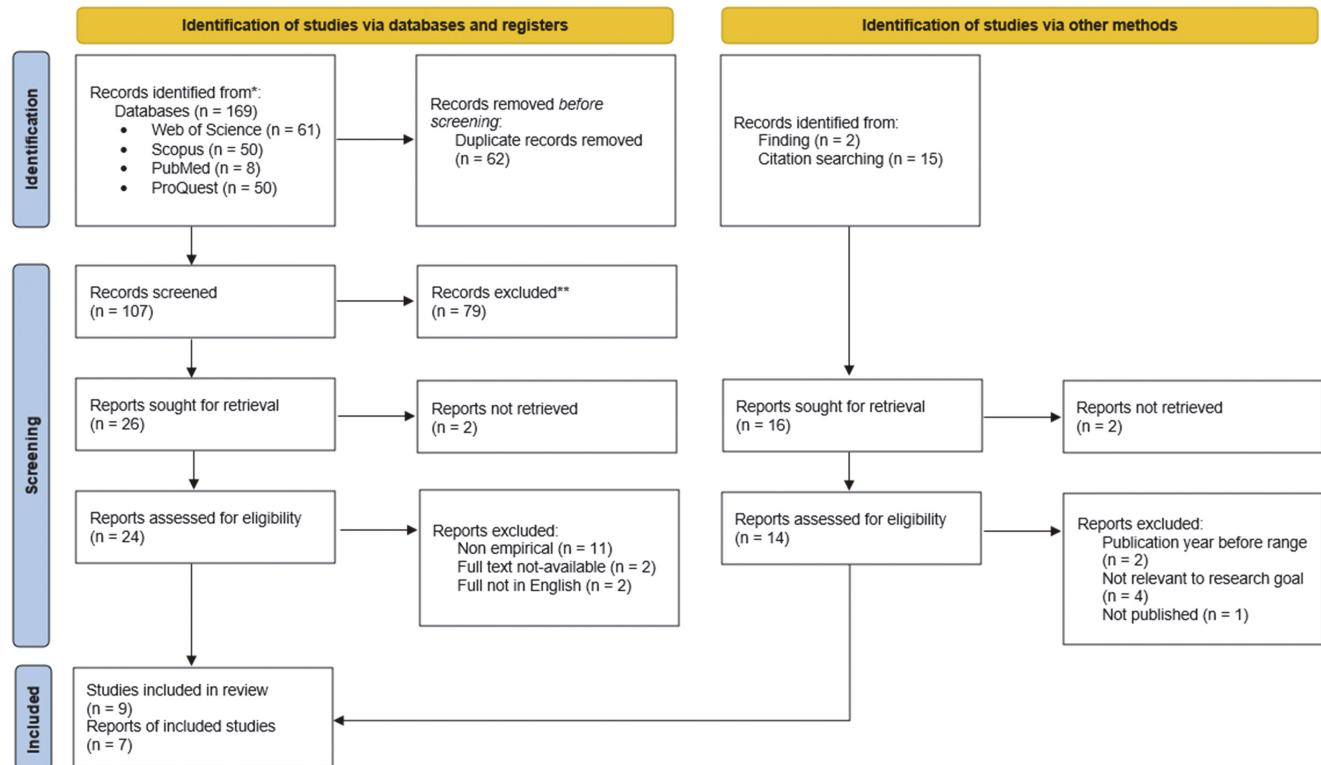
In the current research, 16 studies were identified as relevant for the intended systematic review aiming to identify possible explanatory variables that may lay behind radicalisation and extremism processes. Hereafter the most relevant information found in scientific literature will be presented, classified by each of the four research variables. At the end of the Results section Table 1 offers a summary of these findings.

Extremism and Spirituality/Religiousness

Current study initially considered spirituality, and not religiousness, as a key variable for possible explaining extremism and radicalisation processes. The reason for this was that spirituality comprises a wider range of transcendent experiences, emotions, thoughts and beliefs, which include (but are not reduced to) religiousness (Zinnbauer & Pargament, 2005), as the later would imply some form of “formal” organisation and social structure (Mellor & Shilling, 2014). The need for this differentiation has been highlighted in the recent years for academic and validity reasons (Lucchetti et al., 2021). Taking this into consideration, the five included studies in the systematic review in this regard all referred to religiousness, being this the reason why hereafter this will be the used term.

Even though there are countless examples in media that link extremism and radicalisation to religiousness (or, at least, to some religions) (Al-Azami, 2016), there is no conclusive scientific evidence that support this common assumption. Thereby, it may result surprising to some readers that Gómez et al. (2022), in their research with Muslim women in prison for jihadism charges, found that they perceived themselves and their families as less religious as the control-Muslim group, not finding any significant relationship

Figure 1
Flow Chart of the Search Process, Sieving and Selection of Relevant Articles Along With our Study



between their religious adherence and their commitment to extremism (jihad).

Similarly, [Chabrol et al. \(2019\)](#), in their study with French women sample of explanatory variables for religious extremism found that religiosity itself (religious involvement) played no major role in the risk for radicalisation, but their personality traits (measured following the Dark Tetrad model — these results will be explained in more detail later) and their perceptions of being discriminated, being the later “the main psychosocial factor for radicalisation” ([Chabrol et al., 2019, p. 8](#)). In this line, [Furnham et al. \(2020\)](#), in their research about explaining factors for the *Militant Extremist Mindset*, report that participants religiousness (measured using a 9-points Likert self-report scale) appear to have a significant relationship with extremism, but through the mediation of openness and agreeableness personality traits (which will be discussed later on). It has to be noted that religiousness was not significantly related to extremism when personality traits were not included in the model, results that seems to hint the same conclusions as for [Chabrol et al. \(2019\)](#) study.

In a very similar study with also a French women sample, [Morgades-Bamba et al. \(2020\)](#) results hint that it was the Dark Tetrad the variable that was most related to radicalised cognitions and behaviours, while participant’s religious involvement was associated with radicalisation through an indirect path, mediated by levels of dogmatism.

Finally, in a sample with Christian participants from different affiliations (Orthodox, Roman Catholic, Evangelical and Reformists) [Trip et al. \(2019\)](#) indicate that religious affiliation seemed to be a good predictor for extremist mind-set. However, this

affirmation may be problematic and could lead to confusion, as in the study, religious affiliation was a dichotomic variable (Orthodox vs. Non-Orthodox) and there was no control group (no non-religious participants). Therefore, a possible more precise conclusion from the results found by [Trip et al. \(2019\)](#) could be that, for that particular sample, Christian Orthodox participants tended to show higher levels of extremist beliefs. Nonetheless, to our opinion, there may be some methodological questions that should also be attended in order to be able to draw more precise conclusions (i.e., religious affiliation sample balance, sociodemographic characteristics).

Therefore, based on the lack of conclusive results and on the fact that there is yet no extensive literature that have empirically assessed the relationship between religiousness and extremism/radicalisation (only 4 studies in the past 5 years), religiousness does not seem (so far at least) to be a key variable for explaining these two processes.

Collectively, these studies underscore that while religiousness alone does not seem to cause extremism, it can interact with various personal and contextual factors to influence extremist outcomes.

Extremism and Personality Traits

As it has been already hinted in the previous section, personality traits seemed to be a more promising variable for explaining radicalisation and extremism processes. Out of the seventeen articles included, ten of them included personality traits as an independent variable in the research of extremism and/or radicalisation. However, there is an initial conceptualisation challenge, as not all of them approached the study of personality traits the same way: while

Furnham et al. (2020), Göttsche-Astrup (2020), Meiza (2023) and Trip et al. (2019) used the Big Five Personality model (Costa & McCrae, 1985) as framework; Chabrol et al. (2019), Morgades-Bamba et al. (2020), Pavlović and Franc (2021), Pavlović and Wertag (2021), Tetrault and Sarma (2021) and Trip et al. (2019) followed the Dark Triad model (Paulhus & Williams, 2002) or its later Dark Tetrad personality model (Buckels et al., 2013). However, being the scope of this systematic review to find whether there is empirical evidence in scientific literature that personality (from a holistic approach) is related to extremism and radicalisation, this conceptual challenge does not hinder the review goal.

As it has been already mentioned, there are evidence that linked some of the Dark Tetrad traits with a higher probability of radical cognitions and behaviours across a sample of French women (Morgades-Bamba et al., 2020). Particularly, Machiavellianism, sadism and narcissism were directly related to radicalised cognitions, while narcissism was the only one of the four traits that was directly associated to radicalised behaviours. Psychopathy trait was only related to radicalised cognitions and behaviours through an indirect path mediated by dogmatism.

Similarly, Pavlović and Franc (2021), in their study about responses to perceived group relative deprivation and its link with violent extremism, using a general population Croatian sample, demonstrated that those individuals with higher percentiles in the Dark Tetrad (taken as a whole) were more prone to radical intentions. However, interestingly the Dark Tetrad also was significantly associated to pacific activist intentions. Therefore, these results seem to hint that those with a high profile on the Dark Tetrad model are more willing to take an active role to try to overturn the perceived deprivation in their ingroup, although these results appear not to be that much sensitive in determining the reasons for choosing the violent or pacific path for doing so.

In more comprehensive research on the possible explanatory role that the Dark Triad may had for understanding the adherence to radicalisation and extremism ideologies, Pavlović and Wertag (2021) found in an on-line Croatian sample that both the three Dark Triad traits (Machiavellianism, psychopathy and narcissism) and its general factor were significantly correlated to support for political violence. Although relevant, the main limitation of this study is that it is limited to a correlation analysis, which only allows to slightly hint a possible association, although with low statistical strength.

On their side, Tetrault and Sarma (2021) studied the possible existing relationship between the Dark Tetrad and support for state-supported extremism (SSE). Their results indicate that each of the four Dark Tetrad traits were associated to specific statements measuring SSE. Even though the line of this study is very promising and innovative, in so much as it is one of the few that analyse specifically SSE, it has important methodological limitations that prevent from extracting more solid conclusions. Nonetheless, this research results hint in the same direction as the previous ones, indicating that Dark Tetrad traits are promising candidates for partially explaining extremism support.

Focusing now on the studies that take the Big Five personality model as its framework, Trip et al. (2019) propose that the presence of a global personality factor (comprised by subjects who score low on openness and extraversion, and high on agreeableness) is positively associated with extremist attitudes.

The study carried out by Göttsche-Astrup (2019) focuses on the moderation role that personality traits may play in the relationship between intolerance of uncertainty and extremism (in the form of political violence). Leaving aside (for the moment) the uncertainty involvement in the model, Göttsche-Astrup (2019) results indicate that extremism was negatively related to agreeableness, openness and conscientiousness traits (controlling the effect of intolerance of uncertainty). Neuroticism and extraversion were not related to extremism, although the latest was positively associated with activism involvement, a factor that also showed a positive relation with agreeableness and openness traits. These results are similar to those found by Furnham et al. (2020) and which religiousness aspect was already presented above. Focussing now on the personality traits relation to extremism mindset, these authors report that only openness and agreeableness traits were significantly and negatively associated with the proviolence subscale of the Militant Extremist Mindset Questionnaire (Stankov et al., 2010), being these results almost identical to those reported by Göttsche-Astrup (2019).

Meiza (2023) research on factors that may influence radicalisation among young Muslim Indonesian students conclude that personality traits did not prove to be a significant variable affecting this process. Nonetheless, this research has some methodological issues that may hinder the generalisability of the findings, and of which the reader should be aware. Despite this, the sample used for the study is of great ecological value.

In the light of the information gathered from the few empirical studies that address the personality traits relationship with extremism and radicalisation processes, it seems that it is still required further research on this, especially for overcoming the methodological and statistical challenges present in some of these initial tries. However, it seems that agreeableness and openness traits have proven to be relevant variables in the radicalisation process, with people low on both traits being more susceptible to be radicalised.

Extremism and Intolerance of Uncertainty

It is remarkable that, even though there are many theoretical proposals in scientific literature that have suggested the role that intolerance of uncertainty would play in the development and maintenance of extremism and radicalisation, the number of empirical research in this line seems to be significantly scarce. As so, in the present systematic review, only 2 studies were identified in this regard, both run by the same author.

In his 2019 study, Göttsche-Astrup reports that individuals who showed higher levels of intolerance of uncertainty seemed to be more susceptible to extremist ideologies, as “uncertainty prompts people to seek refuge with in-groups to patch up a hurt sense of self” (p. 103). People therefore would seek refuge in extremist beliefs when feeling less significant or when feeling they are facing an ambiguous situation. However, it would depend on the personality traits of the individual that intolerance of uncertainty plays a significant role in extremism. Results from the regression analyses indicated that uncertainty interacted positively with neuroticism, and negatively with extraversion and openness traits to predict intentions to engage in violence. That means that those participants with high emotional stability, who are more extrovert and who

enjoy new experiences were less inclined to defend extremist perspectives (political violence particularly in this study) in the face of uncertain experiences or situations. On the other hand, intolerance of uncertainty only interacted (in a negative relation) with openness to predict intentions to engage in pacific activism. A last important remark on [Götzsche-Astrup \(2019\)](#) results is how they also link to the last variable that will be discussed in this systematic review: the quest for significance.

One explanation could be that people with high neuroticism and openness are people who tend to be involved in new experiences and enjoy them. Therefore, uncertainty does not threaten them, and they do not need to seek comfort in political violence or hierarchical groups.

Subsequently, [Götzsche-Astrup \(2020\)](#) further confirms his previous findings, showing that intolerance of uncertainty would exacerbate cognitive rigidity, making individuals less open to diverse perspectives and interpretations on ambiguous and potentially threatening situations, causing them to be more prone to radicalisation.

Extremism and Quest for Significance

The last variable analysed in this current systematic review on its possible relation to extremism and radicalisation was the quest for significance, namely, the desire to matter, to feel worthy ([Kruglanski et al., 2022b](#)). The interest of this variable for trying to explain extremism and radicalisation has exponentially increased in the last decade. However, only in the very last years, empirical studies have started to be published.

In line with the theoretical hypothesis on the role of significance quest has on embracing extremism, the results of the studies included in this systematic review all show a clear progression from experiencing a loss of significance (individual or collective), to higher probabilities of getting involved in extremist activities, mediated by the activation of the quest for significance. In the already discussed [Gómez et al. \(2022\)](#) study, results indicate that Muslim women participating in the research had become radicalised after having lived what they felt as a humiliating moment in their lives. It is also interesting to see that, as female jihadists seemed to have engaged in radicalization because of a crisis in their personal and social identities, they also suggest having disengaged from jihad when they perceived disappointment and disenchantment for unfulfilled expectancies.

In the same line, [Jasko et al. \(2019\)](#) conclude that the quest for significance plays a pivotal role in the process of radicalisation. The researchers found consistently in the six studies that comprises their research that, individuals seeking personal significance and meaning, were more likely to be drawn to radicalisation, in the form of self-sacrifice or activism, as these would offer a clear purpose and a sense of belonging. Widening these findings, [Jasko et al. \(2020b\)](#) reported how radical social contexts strengthened the association between quest for significance (with special attention to collective significance) and support for political violence. These findings lead us to the question of whether there exist mediating or moderating variables that are necessary for the activation of the significance quest to end up in a radicalisation process.

In research with terrorism inmates across Indonesia, [Milla et al. \(2022\)](#) found that significance quest did not predict violent

extremism on a direct path, but through an indirect one. In this indirect path, the key variables that mediated the relationship between significance quest and violent extremism were the group identity (or group fusion) and individuals' ideology (Salafi jihadism). These results are consistent with the 3N model of radicalisation ([Kruglanski et al., 2022a](#); [Webber & Kruglanski, 2016](#)), providing empirical support for it.

Lastly, [Mahfud and Adam-Troian \(2021\)](#) in a research on the French Yellow Vests phenomenon that surged in France on December 2018, they studied how loss of significance may foster radical actions (i.e., armed struggle, radical intentions or non-normative collective actions) through the perception of an installed *anomia* (a term coined by Durkheim in the late 19th century to represent the perception of the breakdown of social norms, values, and expectations within a society; [Britannica, n.d.](#)). Their results supported the idea that this perception of anomia among Yellow Vesters mediated the relationship between their feelings of personal significance loss and support of radical violent actions against French government.

Discussion

As explained at the beginning of this article, the rise of extremist movements (i.e. religious, political, racism...) which are many of them starting to inherently exhibiting violence, are one of the main domestic challenges societies are presently facing. The consequences if this path continues in the future are indeed dire. However, with knowledge comes alternatives for a change. Therefore, the present study was motivated by the desire of gathering current existing scientific knowledge on extremism/radicalisation, and some of the most promising variables that partially explain them. Psychology, as a scientific discipline, offers meaningful empirical evidence in this regard, a pre-requisite for developing future effective preventive and interventive initiatives.

Therefore, as a first step, it was considered essential to collect the information that exists in the literature in this regard, especially empirical information that supports the theoretical proposals that have been established (i.e. [Kruglanski et al., 2019](#)). With this goal in mind, the present systematic review of the variables that can intervene in this process was proposed, looking for collecting available empirical information on the role that personality traits, intolerance of uncertainty, spirituality and quest for significance play in creating and maintaining extremism/radicalisation. The search offered a total of 16 empirical research works which had considered at least one of the aforementioned variables in relation to extremism and/or radicalisation.

Out of the four variables, intolerance to uncertainty has proved to be the variable which relation to extremism has been empirically tested the most. In spite of this, only two studies met the criteria of the systematic review and, in both of them, evidence suggests that those individuals who find harder to manage uncertainty are the ones more prone to get caught into radicalisation and extremism ([Götzsche-Astrup, 2019, 2020](#)). Therefore, even this evidence seems to point towards the relevance of intolerance of uncertainty, more empirical research is still required, not only due to the limited available research, but also because of the remarkable relation found between this variable and another of the variables included in this review: personality traits. Thus, uncertainty is not positive

Table 1*Summary of key Information of the Studies Included in the Systematic Review*

Reference	Aim	Sample	Measures	Results and conclusions
Chabrol et al. (2019)	Study the relationship between Dark Triad Traits and radicalisation (cognitive and behavioural)	n=643 French college-women aged 18-29. Non-clinical.	Self-report questionnaires.	Cluster analysis yielded four groups: a Narcissistic group, a Moderate Machiavellian traits group, a Low Traits group, and a group characterized by high levels of sadistic, psychopathic, and Machiavellian traits called the SPM cluster. Results suggest that the intensity of religious involvement is not a risk factor for radicalisation in the absence of Dark Tetrad traits.
Furnham et al. (2020)	Analyse the role that personality traits, personal beliefs (religion and politics) and self-monitoring have in displaying an extremist mindset.	n=506 young-adults.	– MEMS – TIPI – Self-Monitoring Scale – Personality Disorders Questionnaire. – Self-Evaluations	Self-monitoring and personality disorders mediated the relationship between Neuroticism, Openness, Conscientiousness and Agreeableness, and the display of an extremist mindset.
Gómez et al. (2022)	Examine the motives underlying radicalisation and the process of disengagement	n=25 Muslims females incarcerated. 12 women incarcerated because of crimes related to radicalisation, the other 11 participants were incarcerated for other kind of crimes.	– Interviews – Self-Esteem – Quest for Significance – Collective resilience – Ad hoc dynamic measure about ingroup cohesion – Religiosity (three items ad hoc) – DIFI – Three-item measure based on the MMPI as a liars' detection.	The radicalized group showed lower levels of quest for significance and self-esteem than the control group. On religiosity, jihadists perceived themselves and their families as less religious than non-jihadists.
Götzsche-Astrup (2019)	1. Investigate the relationship between uncertainty and political violence, and its generalizability. 2. Analyse whether this relationship depends on individual differences in personality.	Two samples of U.S. adult population (n= 4806) n ₁ = 2317 aged 18-30 n ₂ = 2489 > 18 y/o.	– Demographic and political orientation. – Mini-IPIP – One-item measure about uncertainty ad hoc. – ARIS – Demographic and political orientation – TIPI – Six items scale ad hoc about uncertainty. – One-item measure about support for political violence.	Uncertainty significantly predicted intentions to be involved in political violence. Lower levels of the personality traits of openness, agreeableness, and conscientiousness were found to predict both intentions to engage in political violence and support for such violence.
Götzsche-Astrup (2020)	To test two pathways to intentions to engage in political violence: uncertainty and dark world perceptions.	U. S. sample of 1300 adults. Danish sample of 1188 adults. (n total= 2488)	– Demographic measures – Short personality scale (Donnellan et al., 2006) – One item about uncertainty ad hoc. – Political violence and activism intentions scale.	After demographic measures and the personality scale, participants were randomly assigned to conditions by the orthogonal manipulation of uncertainty (low versus high) and dark world perceptions (high versus control). Results indicated uncertainty is a pathway to political violence, whereas dark world perceptions are not. Nevertheless, uncertainty did not increase political activism.
Jasko et al. (2019)	Study whether engaging in political actions on behalf of important social values provides a sense of personal significance, which motivates self-sacrifice for the cause.	Activists for a radical left-wing party n1= 84. Pro-democratic social activists (n ₂ =1409) Feminist activists (n ₃ = 158) (n ₄ = 258) Environmental activists (n ₅ =396) Labor and healthcare activists (n6=156)	– Three-items measure ad hoc about significance loss. – Cause importance (measure by asking the participant to write down the four most important values associated with the party) – 10-item scale about willingness to self-sacrifice developed by Bélanger et al. (2014). – Activist intentions with a five-item ad hoc measure. – One item ad hoc about significance gain.	Commitment to the cause has a significant effect on willingness to self-sacrifice. In most of the studies, significance loss did not significantly predict activist intentions. Authors indicate that these results may be explained by the fact that participants were already engaged in actions for a cause. They propose that negative emotions may lead to an initial engagement in a cause, but further positive emotions would explain that engagement on the long term.

Table 1

Summary of key Information of the Studies Included in the Systematic Review (continuation)

Reference	Aim	Sample	Measures	Results and conclusions
Jasko et al. (2020b)	Examine the relationship between quest for significance (individual and collective) and ideological-violent extremism, in addition to the influence of social context.	Sri Lanka ($n_1 = 335$), Morocco ($n_2 = 260$), Indonesia ($n_3 = 379$ and $n_4 = 334$).	<ul style="list-style-type: none"> – Collective-Quest: five items from the short version of the CNS. – Individual-Quest: three items ad hoc. – Ideological extremism: two items ad hoc. – Violent extremism: three items ad hoc. 	<p>Quest for collective significance was positively related to support for violence through ideological extremism in all groups.</p> <p>Perception of social deprivation also increased support for political violence.</p> <p>Quest for individual significance was not related to ideological extremism.</p> <p>There was a stronger relationship between the quest for significance and violent extremism among members of radical groups (i.e., jihadists) with respect to the individual form of quest, as opposed to the collective form.</p> <p>Levels of individual quest for significance was higher for jihadists than for the other two groups.</p>
Mahfud and Adam-Troian (2021)	Study whether personal Significance Loss may predict the use of violence, mediated by the feelings of anomia.	Study 1 ($n=776$, general French population)	<ul style="list-style-type: none"> – One question about Significance Loss – MAS – ARIS – Two items about intentions to engage in armed struggle – 7-item scale about nonnormative collective action ad hoc. – One-item measure of identification with the Yellow Vests ad hoc. – One-item measure of political ideology ad hoc. – Demographics. 	Loss of significance through feelings of anomia predicts intentions to engage in political violence (support for the Yellow Vests).
	To conduct an experimental study to corroborate the findings in the cross-sectional study.	Study 2 ($n= 511$, undergraduate students)	<ul style="list-style-type: none"> – One question about Significance Loss. – MAS – ARIS – Two items about intentions to engage in armed struggle – 7-item scale about nonnormative collective action ad hoc. 	Indirect effects caused by the loss of significance manipulation were small for intentions to engage in armed struggle. However, were significant to engage in activism. Meaning that people experiencing humiliation are more likely to take violent action on behalf of a cause in order to restore their dignity.
Meiza (2023)	Analyse the psychological internal factors contributing to radicalisation.	$n=175$ Indonesian university students	<ul style="list-style-type: none"> – IPIP – Tolerance Scale (Van der Walt, 2016) – Radical Intention Scale ad hoc, influenced by Silber et al. (2007) 	<p>The level of tolerance has a significant effect on radical intentions. The less tolerant one is, the greater the potential to engage in radical activities.</p> <p>Personality traits did not show a significant relationship with radical intentions.</p>
Milla et al. (2022)	Empirically test the 3N model, analysing the possible relationship between quest for significance and violent extremism.	$n=135$ inmates sentenced for terrorism (age: 16 to 55 years)	<ul style="list-style-type: none"> – Questionnaires administered through face-to-face interviews. – Four items ad hoc about the need for significance. – Two items ad hoc about group identity. – One-item ad hoc about ideology. – Four items ad hoc about violent extremism. 	<p>Contrary to the 3N model, no significant association was detected between significance quest and violent extremism.</p> <p>Need for significance was not significantly associated with violent extremism when ideology and group identity were controlled.</p>
Morgades-Bamba et al. (2020)	Test a predictive model of radicalisation where socio-cultural factors, personality traits and depressive symptoms would lead, through dogmatism, to radicalisation.	$n=643$ college women (age: 18-29) from French universities.	<ul style="list-style-type: none"> – MEIM – SAFE – Religiosity and Spirituality Scale for Youth – FFMI – YPI – NPI – SSIS – PDQ-4 – SPQ-B – PHQ-9 – BDS – Acceptability of Religiously Radicalized Behaviours 	<p>Dark personality traits contribute to both cognitive and behavioural religious radicalisation. Narcissism is the factor that contributes directly to both radicalized cognitions and behaviours, while sadism contributes directly to radicalized cognitions and indirectly to radicalisation through dogmatism, and psychopathy contributes indirectly to radicalisation through dogmatism.</p> <p>Indirectly, perceived cultural discrimination, religious involvement and cultural identity increase risk of radicalisation (as they increase dogmatism, and dogmatism itself increases radicalisation).</p>

Table 1*Summary of key Information of the Studies Included in the Systematic Review (continuation)*

Reference	Aim	Sample	Measures	Results and conclusions
Pavlović and Franc (2021)	To examine the interactive effect that dark personality traits have on extremism	Study 2 (n=461) Croatian citizens	<ul style="list-style-type: none"> – ARIS. – Perceived Economic Status. – PGRD. – H8 – Five-item social (un)desirability scale. 	There seems to exist an interaction between dark personality traits and perceived group deprivation in the prediction of radicalized intentions, but not for activist intentions. Furthermore, the emotional component of the perceived group deprivation, and not the cognitive, is the one involved in that relationship. In the context of perceived structural pressures (such as perceived group deprivation), individuals with higher scores on dark personality traits are more eager to use violent means to make the system responsive to their needs.
Pavlović and Wertag (2021)	Analyse the relationship between the dark personality traits and radicalisation, plus the use of violence.	n=250 Croatian college students.	<ul style="list-style-type: none"> – Scale of political violence. – Dirty Dozen questionnaire (Jonason & Webster, 2010). – Proviolece scale ad hoc. 	Individually, every dark personality trait significantly and positively correlated with extremism. However, proviolece has emerged as a significant mediator in that relationship.
Rottweiler and Gill (2022)	To examine the effect that group-based relative deprivation can cause on violent extremism, both attitudes and intentions. Study if this relationship is contingent upon individual differences in personality.	n=1500 British participants	<ul style="list-style-type: none"> – Violent extremism attitudes scale ad hoc. – RIS – PGRD – PES – Affiliation motivation scale - SANU 	Need for uniqueness, (assimilated to the quest for significance by authors) resulted as a positive and significant predictor of violent extremist attitudes and violent extremist intentions. Need for uniqueness significantly conditioned the effects of relative deprivation on both violent extremism attitudes and intentions.
Tetrault and Sarma (2021)	To investigate whether people with higher levels on the dark tetrad personality traits and right-wing authoritarianism (RWA) demonstrate more support for SSE (State-sponsored extremism)	n= 398	<ul style="list-style-type: none"> – Four vignettes ad hoc about level of agreement to SSE. – SD3 – Short version of RWA. 	The study shows that dark personality traits can make people vulnerable to supporting SSE. However, supporting SSE does not involve actual extremist behaviour or cognitions.
Trip et al. (2019)	To investigate whether irrational beliefs and personality factors are psychological mechanisms influencing adolescents to develop an extremist mind-set.	n=257 Romanian adolescents, aged 15-18.	<ul style="list-style-type: none"> – Militant Extremist Mind-Set Scale (Stankov et al., 2010) – CASI – Mini-IPIP 	Affiliation to Christian Orthodoxy increased the possibility to support violence. A combination of personality traits, characterized by low Intellect/Imagination, low Extraversion, and high Agreeableness, appears to make individuals susceptible to extremist ideology.

*DIFI = Dynamic Identity Fusion Index; MEMS = Militant Extremism Mindset Questionnaire; TIPI = Ten Item Personality Inventory; Mini-IPIP = International Personality Item Pool; ARIS = Activism and Radicalism Intentions Scale; MMPI = Minnesota Multiphasic Personality Inventory; MAS = Middleton Alienation Scale; BDS = Balanced Dogmatism Scale; MEIM = Multigroup Ethnic Identity Measure; FFMI = Five Factor Machiavellianism Inventory; YPI = Youth Psychopathic traits Inventory; NPI = Narcissistic Personality Inventory; SSIS = Short Sadistic Impulse Scale; PDQ-4 = Personality Diagnostic Questionnaire; SPQ-B = Schizotypal Personality Questionnaire-Brief; PHQ-9 = Patient Health Questionnaire; H8 = Hateful Eight questionnaire; PGRD = perceived group deprivation; PES = Psychological Entitlement Scale; RIS = Radicalism Intention Scale; SANU = Self-attributed Need for Uniqueness scale; CASI = Children and Adolescent Scale of Irrationality; Mini-IPIP = International Personality Item Pool; RWA = Right-wing Authoritarianism; SD3 = Short Dark Triad

or negative by itself; its affective appraisal will depend on individual differences, namely personal background and biography, beliefs or personality traits (Kruglanski & Ellenberg, 2023). As so, in the present systematic review it was found empirical evidence that precisely indicates that neuroticism (positively), extraversion and openness (negatively) mediated the relationship between intolerance of uncertainty and extremism (intention to engage in political violence) (Gotzsche-Astrup, 2019).

The next most studied variable in terms of its relationship to extremism were personality traits. Here, too, there is lack of

consensus. Several studies found evidence that seemed to indicate that Dark Tetrad personality traits facilitate the path to extremism (Morgades-Bamba et al., 2020; Pavlović & Franc, 2021; Pavlović & Wertag, 2021; Tetrault & Sarma, 2021). Surprisingly, research that used the Big Five Model (Costa & McCrae, 1985) as the personality model of reference did not find these same conclusive results regarding how personality traits influenced the radicalisation process and extremism. As so, while two studies found that high neuroticism, low openness to experience and low agreeableness increased radicalisation (Gotzsche-Astrup, 2019; Furnham et al., 2020); Meiza

(2023) concluded that personality traits did not have a significant influence on extremism, at least not without another variable mediating in that relationship. Therefore, regarding personality traits, empirical research with a stronger methodological strength and a consistent theoretical framework would be greatly recommended.

Spirituality and, more specifically, religiousness, seems to have been widely linked to extremism in the popular mindset (Aly & Striegher, 2012). However, scientific evidence seems to point out in a different direction, noting that, as with the previous two studied variables, there is a significant lack of empirical research on the matter. Thence, religiousness itself has not been accounted as a significant variable for predicting a higher vulnerability towards radical and extremist attitudes or behaviours (Gómez et al., 2022). The only consistent conclusion that empirical evidence has shown on the matter is that religiousness may play as a mediator in the relationship between other variables (i.e., personality traits) and extremism (Chabrol et al., 2019; Morgades-Bamba et al., 2020). For this reason, more empirical research on the role of not only religiousness, but also spirituality (which, up to this day, has not been empirically studied in relation to extremism nor radicalization) would be greatly useful for future prevention and intervention programs.

The last variable considered in the present systematic review was quest for significance. Even though it has gained great popularity in the last decade, and hugely solid theoretical proposals have been published on its relationship with extremism and radicalisation (Kruglanski et al., 2009, 2013, 2022b, Webber & Kruglanski, 2016) the truth is that there is little empirical evidence yet for backing these proposals. Nonetheless, empirical evidence reveals that the experience of a personal (or collective) loss of significance often triggers a quest to restore that sense of worth, which may lead individuals towards extremist ideologies or actions (Gómez et al., 2022; Jasko et al., 2019, 2020b; Mahfud & Adam-Troian, 2021; Milla et al., 2022). While the quest for significance appears to be indeed a central factor in radicalisation processes, various mediating factors like group identity and ideology shape its outcomes, offering key insights into how radicalization can be understood and potentially mitigated.

As a general conclusion drawn from the findings presented in this systematic review, it could be stated that those individuals who have more difficulty with managing of uncertainty (both situational and personal), who have experienced (or are experiencing) an important loss of vital significance (feeling undervalued, socially rejected or humiliated), and who, on a personality level, have more difficulties in managing their emotions, are not that much open to new and/or intense experiences, would be those at a higher risk of being susceptible to radicalisation processes (without being here able to draw a definite conclusion regarding the role played by personal spirituality/religiousness). Despite the indicated description, this does not imply that anyone who meet these broad criteria is doomed to become a radical or extremism, as these results should be always read as a constituent of vulnerability.

One last aspect to emphasise in the light of the information reviewed is that future empirical research on extremism and radicalisation should try to analyse the possible existence of a latent variable/construct which may underlay both variables. The reason for it is that, so far, all the evidence we have regarding extremism and radicalisation comes more from a semantic perspective rather

than from an operational one. It would be interesting therefore that future research would attempt to empirically study if the semantic differences between extremism and radicalisation are accurate, or, contrary to that, extremism and radicalisation share a high percentage of variance, indicating that they are just two traits of a high order construct.

The studies included in the review are not without limitations. In some cases, the methodology or statistical analysis chosen did not allow conclusive results to be drawn (Meiza, 2023). Secondly, the lack of a consistent theoretical framework makes it difficult to extrapolate the results, especially when studying the variable 'personality traits': ten of the seventeen articles studied it as a variable, but the different frameworks prevent the variable from being understood as one. Finally, the different conceptualisations of religiousness and spirituality were a problem. After carrying out this revision, it became clear that spirituality includes religiousness and many other elements that are relevant; therefore, reducing the variable to religiousness leaves out a lot of important information about the individual experience of spirituality. Furthermore, despite the importance of intolerance of uncertainty in relation to extremism, only two studies (by the same author) were found to meet the criteria.

This systematic review has its strengths. Firstly, the review and selection of articles was carried out by two independent researchers and high coefficients of agreement were found. The review was performed by two independent researchers and high coefficients of agreement were found. Secondly, the methodological quality of the studies included in this review was assessed. Both elements comply with the guidelines and standards for the methodological quality of systematic reviews and favour the quality of this review. Finally, to the best of our knowledge, this is the first systematic review that examines the empirical findings in scientific literature on the relationship between extremism and various psychological variables.

Author Contributions

First author: Conceptualization, Resources, Data Curation, Formal Analysis, Methodology, Writing — Original draft, Writing — review and editing, Supervision. Second author: Resources, Data Curation, Formal Analysis, Methodology, Writing — Original draft. Third and fourth authors: Writing — Original Draft, Writing — review and editing. Fifth, sixth and seventh authors: Writing — review and editing.

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The authors declare that there is no conflict of interest.

Data Availability Statement

Currently, the raw data are not publicly available in an institutional repository. Nonetheless, the authors are open to share the data with researchers interested in replicating the results found in this paper.

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Appendix 1

Quality Assessment Based on McMaster Critical Review Form — Qualitative Studies (Version 2.0) (Letts et al., 2007)

Reference	Study purpose	Literature	Design			Sampling			Data collection		Data Analysis			Overall rigour	Conclusions and implications
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q1	Q2	Q3		
Chabrol et al. (2019)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Furnham et al. (2020)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Gómez et al. (2022)	1	1	1 (CS)	1	1 (I)	1	1	1	1	1	1	1	1	1	1
Gotzsche-Astrup, O. (2019)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Gotzsche-Astrup, O. (2020)	1	1	1 (CS)	1	1 (Q)	1	1	2	1	1	1	1	1	1	1
Jasko et al. (2019)	1	1	1 (CS)	1	1 (Q)	1	1	2	1	1	1	1	1	1	1
Jasko et al. (2020b)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Mahfud & Adam-Troian (2021)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Meiza, A. (2023)	1	1	1 (CS)	1	1 (Q)	1	1	2	1	1	1	1	0	0	0
Milla et al. (2022)	1	1	1 (CS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Morgades-Bamba et al. (2020)	1	1	1 (QS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Pavlović & Franc (2021)	1	1	1 (QS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Pavlović & Wertag (2021)	1	1	1 (QS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Rottweiler & Gill (2022)	1	1	1 (QS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1
Tetrault & Sarma (2021)	1	1	1 (QS)	1	1 (Q)	1	1	2	1	1	1	1	1	1	1
Trip et al. (2019)	1	1	1 (QS)	1	1 (Q)	1	1	1	1	1	1	1	1	1	1

*1= Yes; 0= No; 2 = Not addressed CS = Cross-sectional; Q = Questionnaires; I = Interview

Article

The Role of Industry in Addictive Behaviors: An Analysis of Commercial Determinants of Health

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ABSTRACT

The study of addictive behaviors has historically been approached from an idiographic perspective. However, in recent years, a broader approach has been promoted, integrating contextual, sociocultural, political, and commercial determinants that contribute to the development of addictions. Commercial determinants of health (CDH) refer to the practices of industries that influence patterns of health, diseases, and addiction in the population. This article aims to outline the strategies employed by industries related to addictive behaviors, such as political practices (e.g., lobbying), interference in scientific research (e.g., funding studies), language manipulation, marketing strategies, and reputation management practices (e.g., corporate social responsibility). Furthermore, several measures of control or environmental prevention are proposed, including transparency, measures to reduce availability and accessibility, product regulation, and measures to regulate marketing.

El Papel de la Industria en las Conductas Adictivas: un Análisis de los Determinantes Comerciales de la Salud


RESUMEN

El estudio de las conductas adictivas ha sido históricamente abordado desde una perspectiva idiográfica. Sin embargo, en los últimos años, se ha promovido un enfoque más amplio que integra determinantes contextuales, socioculturales, políticos y comerciales que contribuyen al desarrollo de las adicciones. Los determinantes comerciales de la salud (DCS) hacen referencia a las prácticas de las industrias que influyen en los patrones de salud, enfermedad y adicción de la población. El presente trabajo tiene como objetivo exponer las estrategias empleadas por las industrias vinculadas a las conductas adictivas, tales como prácticas políticas (p. ej., *lobbying*), prácticas de intromisión en investigación científica (p. ej., financiación de estudios), manipulación del lenguaje, estrategias de marketing y prácticas de gestión de la reputación (p. ej., responsabilidad social corporativa). Asimismo, se proponen diversas medidas de control o prevención ambiental, entre las que se incluyen la transparencia, medidas de reducción de disponibilidad y accesibilidad, la regulación del producto, y medidas para regular el marketing.

Palabras clave

Determinantes comerciales de la salud
Conductas adictivas
Medidas de control
Prevención ambiental

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Commercial Determinants of Health

Classically, the study of addictive behaviors has been conducted from an idiographic model, i.e., focused on the study of individual variables to explain the underlying mechanism of addiction. In this regard, multiple characteristics have been examined as risk factors for addictive behaviors—demographic (e.g., age, gender), psychological (e.g., emotion regulation, self-esteem), cognitive (e.g., impulsivity, inhibition), and social (e.g., family, social class) (Allami et al., 2021; Brady et al., 2019).

This paradigm of the study of addiction associated with individual pathology has led to a narrative based on individual risk and personal responsibility, since it focuses on the "problematic" consumer or user rather than on the problematic products being marketed. Consequently, in recent years, it has been emphasized that the study of and approach to addictive behaviors should be conducted from a broader perspective, also analyzing the contextual, sociocultural, environmental, commercial, and political determinants that may contribute to the development of problematic use (Gilmore et al., 2023; McKee & Stuckler, 2018; Thomas et al., 2023). In this context, it is increasingly evident that some practices with negative health effects, among them addictive behaviors, are driven and promoted by the interests of the industry that markets them, which are in conflict with the priorities of public health.

These tactics employed by industry that impact the health of citizens are known as commercial determinants of health (CDH). Although there is no unanimously accepted definition, CHD can be defined as the "systems, practices, and pathways through which commercial actors influence human health and equity" (Gilmore et al., 2023). More concretely, Freudenberg et al. (2021) define them as "the social, political, and economic structures, norms, rules, and practices through which commercial activities designed to generate profits and increase market share influence patterns of health, illness, injury, disability, and death within and across populations." Thus, CDHs provide an essential framework for analyzing how business and commercial activities can exert an inappropriate influence on health, in this case through addictive behaviors.

Tobacco was the first example where awareness was raised about the role of the tobacco industry in people's health (Thomas et al., 2024). This triggered further scrutiny of other industries, including other potentially addictive products (e.g., alcohol, cannabis) (Adams et al., 2021), unhealthy lifestyles (e.g., food industry) (de Lacy-Vawdon et al., 2023), and fossil fuels (Wood et al., 2024), among others. The different industries not only share their practices, but often also work together (Gilmore et al., 2023). Moreover, all these commercial actors use strikingly similar strategies and tactics to those employed by the tobacco industry (de Lacy-Vawdon et al., 2023) and, consequently, advances in tobacco control demonstrate that health protection policies are feasible and effective (Thomas et al., 2024).

Tactics and Strategies for Commercial Determinants of Health

CDHs use a multitude of strategies and tactics to promote the use of their products, minimize the perception of associated risks, and thereby normalize their consumption, with the goal of increasing sales and maximizing profits. Although the strategies and tactics

can be classified in multiple ways, in this manuscript they are categorized as follows: 1) political practices; 2) practices to reframe the public debate; 3) marketing strategies; and 4) reputation management practices.

Political Practices

Lobbying is a strategic activity by which commercial actors or industries seek to influence the decision making of policy makers, government, or regulators in order to promote specific objectives and, consequently, protect their economic and commercial interests and minimize legal constraints (Lacy-Nichols, Quinn et al., 2023). These activities include meetings with political representatives (e.g., members of government, parliamentarians), contributions to election campaigns, revolving doors, drafting policy proposals, and using the media to frame issues and debates, among others (Crosbie et al., 2024; Lacy-Nichols & Cullerton, 2023; Matthes et al., 2023; Savell et al., 2016). All of these strategies are ultimately aimed at using their power (economic and political) to oppose public health regulatory measures that scientific evidence has shown to be effective, or at least dilute or postpone them.

Lobbying has been widely studied and recognized in the field of addictions, especially in the tobacco and alcohol industries. Industries have created or allied themselves with different groups, societies, companies, and institutions, seemingly independent, that defend industry interests (Lesch & McCambridge, 2022; Leung et al., 2023; Morley et al., 2002; Rotman et al., 2022) (e.g., *Fundación por un Mundo Libre de Humo* [Foundation for a Smoke-Free World], *Plataforma para la reducción del daño por tabaquismo* [Platform for Smoking Harm Reduction], *Fundación Alcohol y Sociedad* [Alcohol and Society Foundation]). Another clear example of this strategy can be seen in the opposition to smoking bans in bars and restaurants. In this context, different groups financed by the tobacco industry established alliances with the hospitality sector in order to stop these regulations, arguing that they would negatively affect the sector's economy. Among the tactics employed was the "*Courtesy of Choice*" campaign, which proposed a seemingly balanced solution: allowing smokers and non-smokers to share public spaces by creating designated smoking areas. This initiative, presented as a fair alternative, not only sought to avoid stricter restrictions and preserve the presence of tobacco in social settings, but also ensured the continuity of the industry's profits, disguising its commercial interests under the argument of coexistence and freedom of choice (Sebrié & Glantz, 2007; Velicer & Glantz, 2015).

With respect to other industries with a shorter historical track record, it is worth mentioning that, following the legalization of cannabis in some territories, there has been a significant increase in lobbying expenditure, a lack of transparency in support and strategic alliances with other industries to oppose public health measures, and a significant influence on the policies carried out (Rotering & Apollonio, 2022). In the gambling arena, gambling operators have allied with various associations and lobby groups to interfere with public health measures (Lacy-Nichols, Christie et al., 2023). There are numerous associations, ostensibly independent, that include staff from different gambling operators on their board of directors. As an example, the *Asociación Española de Juego Digital* [Spanish Digital Gambling Association] (JDigital) defines itself as "a non-

profit association whose main objective is to promote safe and responsible environments and conditions for online gambling activity", including in its board of directors exclusively representatives of different gambling operators (e.g., Luckia, Bet365, Betway, Codere).

Another lobbying strategy is **strategic litigation**, i.e., lawsuits to prevent, delay, or eliminate regulatory measures. For example, the tobacco industry has sued different countries that have implemented generic or plain packaging under commercial rights infringement grounds (Hawkins et al., 2019; Moodie et al., 2022), or have tried to interfere with *Endgame* policies (i.e., control measures that seek to reduce and eliminate the prevalence of tobacco and nicotine consumption) by excluding e-cigarettes from them (Tobacco Tactics, 2024). In the field of gambling, on the other hand, gambling operators have influenced the legal regulation in Spain by filing a lawsuit against Royal Decree 958/2020. As a result, the [General Council of the Judiciary \(2024\)](#) has recently repealed some articles of that Royal Decree, such as the appearance of persons of public relevance or the possibility of issuing personalized promotions.

As an alternative to these regulations proposed by governments, the industries promote and defend **self-regulation**, i.e., that the companies or industries themselves voluntarily establish and apply their own standards, limitations, or restrictions. This implies the development of symbolic control mechanisms that prioritize the commercial interests of the industries over public health. Consequently, these measures are systematically insufficient, inconsistent, or they are designed to avoid stricter regulations but not to promote public health (Noel et al., 2017; Selin, 2016). Ultimately, based on a public health model, it is argued that **those who are part of the problem can never be part of the solution**.

Practices for Reframing the Public Debate

Industries try to reframe the public debate by focusing the responsibility for the problem on the individual, exempting themselves from any responsibility, manipulating the language, and highlighting the economic impact of the industries.

Shifting the focus to **individual responsibility** points the finger exclusively at problem consumers or users rather than problem products. The industry alludes to the fact that individuals have sufficient and necessary information to make their decisions (e.g., "smoking kills") and that, if they make the decision to engage in the addictive behavior, it is a free, reasoned, and responsible decision. As an example, slogans of "drink in moderation, it's your responsibility" or "consume within a healthy and balanced diet" that accompany products place the responsibility on the consumer (Casswell, 2018; Savell et al., 2016). Similarly, gambling prevention campaigns by operators have "responsible gambling" as their slogan, where it is understood that gambling is a legal recreational and entertainment activity, and that problem gambling is the result of a series of wrong decisions or ill-informed choices on the part of the gambler (Hancock & Smith, 2017; Miller & Thomas, 2018).

Another of the strategies used where the reformulation of public debate is evident is through the **manipulation of language**. Industries try to avoid any terminology related to their toxic products. For example, they prefer to use the terminology *white snus* versus *nicotine pouches*, *vapers* versus *e-cigarettes*, *energy*

drinks instead of *high-caffeine drinks*, or acronyms such as *THC* or *CBD* instead of *cannabis*. They also manipulate language by omitting part of the product's ingredients or its toxicity (e.g., associating *vaper* as water vapor), highlighting positive qualities of the product (e.g., taste, low calories), promoting a different route of administration (e.g., oral cannabis) or associating their product with different positive experiences (e.g., extreme sports, friendships) (Aonso-Diego, 2024; Aonso-Diego, Macía et al., 2025; Aonso-Diego & Rey-Torres, 2024; Isorna & Villanueva-Blasco, 2022). Another form of language manipulation is directly lying about the product or the consequences of legal regulation. For example, claiming that taxation is ineffective, that it does not reduce the prevalence of consumption, that it increases illicit trade, or that its advertising does not target young people (Crosbie et al., 2024; Millot et al., 2024).

Finally, it is worth noting how they use the potential **economic impact** to justify their activity and, ultimately, avoid or reduce the regulation of their products (CEJUEGO, 2024; Mesa del Tabaco, 2020). Along these lines, they allude that different industries are wealth generators, as they participate in providing financial incentives (e.g., direct and indirect employment), in creating stakeholders (e.g., governments collaborating with the industry), or in substituting policies (e.g., educational and informational programs for customers rather than public health) (Action on Smoking and Health, 2011; Sama & Hiilamo, 2019; Savell et al., 2016). On the other hand, they emphasize short-term gains (e.g., tobacco taxes, employment generation) rather than long-term costs (e.g., social and health costs linked to the problems caused), which have been shown to be significantly higher (DeCicca et al., 2022; Warner, 2000).

This reformulation of the public debate is carried out in different ways, the most relevant being **funding scientific studies**, concealing their involvement, as well as casting doubt on the results that contradict their interests. This phenomenon has been widely evidenced in the case of tobacco (McDonald et al., 2023), alcohol (McCambridge & Mialon, 2018; Ramsbottom et al., 2022), cannabis (Bowling & Glantz, 2019; Grundy et al., 2023), and gambling (Collins et al., 2020; Dun-Campbell et al., 2023; Ladouceur et al., 2019), among others. Numerous studies have shown that industry-funded research yields results more favorable to their interests (Hendlin et al., 2019; Martínez et al., 2018; Pisinger et al., 2019; Vassey et al., 2023). However, it is important to note that conflicts of interest do not accurately reflect all of the authors' interests (McDonald et al., 2023), as it is not uncommon to find inaccuracies and omissions in the disclosures of conflicts of interest that authors are required to indicate in scientific journals.

Industries, in their efforts to resist change and perpetuate the status quo, tend to promote the use of other products marketed by the same industry as substitutes for those originally identified as harmful to health. Examples include promoting the use of e-cigarettes or nicotine pouches as a smoking cessation option (Azzopardi et al., 2022; Hameed & Malik, 2024), CBD to quit cannabis use (Fortin et al., 2022; Freeman et al., 2020), or the use of cannabis for potentially therapeutic purposes (Grundy et al., 2023). In short, generally speaking, industries seek to emphasize that the evidence regarding the relationship between the consumption of these products and the harms caused is inconclusive, that the impact on users' physical and mental health is highly

complex, that there is no scientific consensus, that the focus should be on the individual, or that prevalence is very low and, therefore, they claim that stricter regulation is unnecessary (Dun-Campbell et al., 2023; Savell et al., 2014, 2016).

Marketing

Among the strategies most studied and addressed from the perspective of CDHs are those related to the marketing of their products. Marketing strategies include advertising (e.g., TV commercials), promotions (e.g., special offers) and sponsorship of sports teams (e.g., soccer), celebrities (e.g., athletes), or events (e.g., concerts, festivals).

A large number of studies have shown that advertising has a significant impact on the consumption of tobacco (Donaldson et al., 2022), alcohol (Giesbrecht et al., 2024), cannabis (Rup et al., 2020; Trangenstein et al., 2021), energy drinks (Ayoub et al., 2023; Bleakley et al., 2022), as well as on gambling (Bouguettaya et al., 2020; García-Pérez et al., 2024). Therefore, it is not surprising that the regulations governing the different products also include the regulation of promotional tactics, whether in tobacco (Law 28/2005 and Law 42/2010) (Boletín Oficial del Estado [Official State Gazette], 2005, 2010b), alcohol (Law 34/1988 and Law 7/2010) (Boletín Oficial del Estado [Official State Gazette], 2010a, 1988), or gambling (Royal Decree 958/2020) (Boletín Oficial del Estado [Official State Gazette], 2020). However, despite attempts to restrict the marketing of products, the industries that commercialize them use a multitude of strategies to circumvent the regulations that govern them. These strategies will be exemplified below in the case of nicotine, alcohol, and gambling.

With regard to tobacco and other nicotine products, when the first e-cigarettes appeared, the regulations in force regulated only "tobacco products" (Boletín Oficial del Estado [Official State Gazette], 2005), so that e-cigarettes—containing nicotine but not tobacco—were not governed by these regulations. This resulted in numerous marketing campaigns on public roads (e.g. bus shelters, banners on buildings) or via social networks. Subsequently, Royal Decree 579/2017 (Boletín Oficial del Estado [Official State Gazette], 2017) was implemented, where the use of such marketing strategies on "tobacco and related products" was restricted, thus including any device capable of delivering nicotine. A similar phenomenon has occurred with the emergence of nicotine pouches in some countries, as in the absence of regulations governing them, there are companies (e.g., Velo®) that are official sponsors of sports such as Formula 1 (Sun & Tattan-Birch, 2024).

Alcohol regulations (Law 34/1988 and Law 7/2010) (Boletín Oficial del Estado [Official State Gazette], 2010a, 1988) state that "the broadcasting of television advertisements for alcoholic beverages over 20 proof" is prohibited, and that commercial communication for alcoholic beverages under 20 proof "shall be broadcast between 8:30 pm and 6:00 am". This has resulted in various alcoholic beverage brands reducing the amount of alcohol in their products from 39° to 20° (e.g., gins, whiskies), in order to be able to advertise during the permitted hours. Likewise, the emergence of numerous 0.0 presentations (e.g., beers, gins) also responds to this commercial objective of being able to be advertised without restrictions or to carry out sponsorships with sports teams, a phenomenon known as 'surrogate marketing' or 'brand sharing'

(Critchlow et al., 2025). Finally, in relation to gambling, in November 2020 Royal Decree 958/2020 came into force (Boletín Oficial del Estado [Official State Gazette], 2020) which, among its measures, includes restrictions on marketing strategies. However, it is common to see gambling operators circumvent current regulations, for example, by advertising their products on social media without time restrictions; sponsoring celebrities (e.g., Neymar) and soccer teams (e.g., Manchester City) from other countries, sponsoring soccer matches outside the Spanish League (e.g., UEFA Champions League), or using images of people who closely resemble famous personalities (Aonso-Diego, Macía et al., 2025).

Reputation Management Practices

Within reputation management practices, corporate social responsibility (CSR) is the strategy that has received the most attention. CSR is a business approach that integrates social, environmental, and ethical concerns into a company's strategies and operations, beyond its economic objectives (Fatima & Elbanna, 2023). In industries related to addictive behaviors, CSR initiatives may aim to improve their image and protect their economic interests (Mialon & McCambridge, 2018).

Industries conduct CSR through 1) educational programs (e.g., alcohol and road safety, "responsible drinking" campaigns), 2) environmental sustainability initiatives (e.g., greenwashing, cigarette butt collection), 3) awards or funding for educational programs, 4) social causes (i.e., purplewashing or rainbow washing), 5) commitment to research (e.g., funding studies), 6) systems for detecting problematic use (e.g., algorithms), and 7) aids for addressing the problem (e.g., quitlines, harm reduction alternatives) (Mialon & McCambridge, 2018; Savell et al., 2016; Wakefield et al., 2022). It is worth mentioning that there is no strong evidence that industry CSR initiatives have an impact on addictive behavior, and they may even have an unintended effect by hindering evidence-based public health policies (Mialon and McCambridge, 2018).

As an example, it is widely recognized that youth smoking prevention education programs promoted by the tobacco industry are not only ineffective, but paradoxically, seem to encourage tobacco use. Many of these programs, instead of emphasizing the risks of smoking, present it as an "adult choice" or a practice reserved for "responsible adults," thus reinforcing the idea that smoking is a rite of passage to maturity (National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health, 2012).

A comprehensive analysis of the strategies and tactics used by CDHs can be found in the studies by Lacy-Nichols, Jones et al. (2023), Gilmore et al. (2023), Lee et al. (2022), and Sharpe et al. (2022).

Environmental Control and Prevention Strategies

During the 20th century, the approach to addictive behaviors has been primarily individual, through prevention and treatment programs. Within the field of prevention, a distinction is made between demand reduction and supply reduction approaches. The main objective of **demand reduction programs** is to influence

people not to engage in addictive behavior or to reduce the frequency of use. This includes information campaigns, school prevention programs, family prevention or parenting school, and even community prevention, including television advertisements. Evidence indicates that focused and targeted actions are necessary, but not sufficient, to achieve a significant impact on people's behaviors (Burkhart, 2011; Burkhart et al., 2022). Consequently, a number of actions have been implemented under the premise that the best way to change a behavior is to change the context where the behavior takes place (Matjasko et al., 2016).

Along these lines, **prevention based on supply reduction** (also known as **environmental prevention or control measures**) approaches the problem from a broader perspective, also incorporating contextual, environmental, and commercial variables. In other words, this model seeks to limit the availability, accessibility, and distribution of substances or products. Its objective is to make access to these elements more difficult through regulatory, legal, and economic measures (Becoña, 2022; Burkhart, 2011; Burkhart et al., 2022).

Implementing effective policies to change these behaviors remains a challenge in many countries, in part due to lack of resources and the influence of different industries on these regulatory measures (Gilmore et al., 2015; McKee & Stuckler, 2018). The following is a cross-sectional presentation of different control measures that can be carried out on the various addictive behaviors that mitigate the impact of CDHs. They are categorized as follows: 1) transparency and monitoring, 2) reduction of availability and accessibility, 3) product regulation, and 4) regulation of marketing strategies.

Transparency and Monitoring

The World Health Organization's Framework Convention on Tobacco Control (FCTC), the first and only international public health treaty, is a key reference for addressing transparency in the industries (McHardy, 2021). In particular, Article 5.3 of the FCTC establishes the commitment of signatory states to "...protect their public health policies related to tobacco control from commercial and other vested interests of the tobacco industry, in accordance with national law." Furthermore, the existence of a "...fundamental and irreconcilable conflict between the interests of the tobacco industry and the interests of public health policy" (World Health Organization, 2005) is highlighted. In this regard, the need to ensure full transparency of the industries' business and trade practices is emphasized.

Specifically, and for the sake of transparency, industries should be obliged to detail the nature of their contacts and specific lobbying activities, which should be closely monitored. In addition, the manipulation of scientific evidence, promotion and advertising strategies, CSR campaigns, alliances established with front groups, and, ultimately, all kinds of interference strategies used to prolong or favor the conditions under which they operate should also be monitored (Lacy-Nichols & Cullerton, 2023). Likewise, it is essential for the scientific community to promote independent research, in order to avoid the dependence on information provided by industries regarding epidemiological data, risk factors, consequences of the use of their products, and the impact of control measures.

Reduced Availability and Accessibility

Two of the most studied variables in the field of addictive behaviors are the perceived availability and accessibility of the product (Botella-Guijarro et al., 2020; González-Roz et al., 2022). Consequently, from a public health perspective, various measures have been proposed to reduce availability and accessibility.

First, **availability** could be reduced by reducing the number of premises (e.g., gambling halls, casinos, tobacco shops), for example, by providing licenses based on a certain number of inhabitants or under some specific conditions (e.g., far from educational centers). Similarly, opening and closing hours, specific hours for the sale of alcohol or tobacco, or the hours of operation of slot machines can be regulated. With regard to **accessibility**, the proposed measures are related to the minimum age required to purchase the product; having some mechanism to control access to the product (e.g., tobacco machine button, facial identification); increasing the price of the product (e.g., increasing taxes); adding taxes depending on the amount of alcohol, caffeine, or nicotine; or prohibiting sales in certain spaces or places (e.g., vending machines, educational centers).

Previous research has shown that the indicated measures, such as reducing the number of slot machines (Engebø et al., 2021; Erwin et al., 2021), banning consumption in some places (Hopkins et al., 2010; Levy et al., 2018), increasing taxes (Chugh et al., 2023; Kilian et al., 2023; Levy et al., 2018), increasing the minimum age of access (Brachowicz & Vall Castello, 2019; Raisamo et al., 2015), or modifying the layout of products in supermarkets (Petimar et al., 2023; Winkler et al., 2022), have had a direct impact on reducing the consumption of tobacco, alcohol, energy drinks, and gambling.

Product Regulation

Different measures are also proposed to regulate the product, for example, in relation to its maximum **size**, proposing cans of 250 ml maximum in energy or alcoholic beverages, which has been shown to be effective in reducing the consumption of alcohol (Kersbergen et al., 2018; Mantzari & Marteau, 2022) and tobacco (Martino et al., 2024; Shadel et al., 2016). Also noteworthy are the **health warnings** included on tobacco (Hammond, 2011) and alcohol products (Kokole et al., 2021; Wigg & Stafford, 2016), and even the plain packaging of tobacco and nicotine products (Moodie et al., 2022).

On the other hand, the **ingredients** contained in the product can be restricted, such as the maximum concentration of caffeine in a can or nicotine in a cigarette or in a nicotine pouch; or flavorings or aromatizing agents in nicotine products. In the area of gambling, it is possible to regulate the "near misses" on slot machines, for example, to ensure that they do not occur more often than would be expected by chance, do not give the false impression of control, or do not increase expectations of winning. Furthermore, it is not only advisable to restrict or limit the ingredients contained in the product, but it is also important that each ingredient and its concentration are clearly indicated. Those who consume energy drinks are unaware of some of the ingredients they contain (e.g., ginseng), information that is relevant when considering possible interactions and adverse effects; and healthcare personnel who perform smoking cessation treatments are unaware of the amount of nicotine or carbon monoxide in the product consumed by their patient.

With respect to cannabis, given that it is the most consumed illegal substance in Spain (National Plan on Drugs, 2023, 2024), the proliferation of stores selling derivative products should not go unnoticed. Although their sale is legal as long as they contain a very low level of THC ($< 0.2\%$) and are intended for topical use, there is a legal loophole whereby they are also sold in other formats identical to cannabis itself (such as hashish and buds), which can lead to confusion about their legality and effects. In this context, it is proposed to review and strengthen regulations to limit the sale of these products exclusively to permitted uses (e.g., cosmetic or industrial), expressly prohibiting their commercialization in presentations that simulate smokable cannabis. Clear labeling could also be required to indicate that they are not suitable for human consumption, as well as stricter inspection controls at points of sale. These measures would help reduce the risk of normalizing consumption and prevent these products from acting as a gateway to recreational use, especially among adolescents and young people (Ministry of Health, 2024b).

Regulation of Marketing Strategies

Given the impact of advertising on addictive behaviors, a series of measures aimed at restricting and limiting marketing strategies are proposed.

Marketing, including advertising, sponsorship, and promotion of these products, can be regulated taking into consideration the timing of advertising, the use of public figures (e.g., celebrities, athletes), where and how the product can be advertised (e.g., television, social networks), sponsorship of events or sports clubs, prohibition of promotions (e.g., gifts associated with the product, 2-for-1 offers), or associating use or consumption with positive qualities (e.g., success, youth). It should be noted that all these measures should be aimed at protecting the most vulnerable groups, such as children or adolescents, or those with problematic use. Several scientific studies have shown that restrictions on marketing strategies for tobacco (Blecher, 2008; Levy et al., 2017, 2018), alcohol (Siegfried et al., 2014), and gambling and betting (Aonso-Diego, Krotter et al., 2025) have a significant impact on addictive behaviors.

For a deeper understanding of control measures, we recommend reading the monograph by Becoña (2022), as well as consulting the specialized literature on each addictive behavior, for example, regarding tobacco regulation (Ministry of Health, 2024a; Peruga et al., 2021); in the case of alcohol (World Health Organization, 2024); in the context of cannabis (Caulkins & Kilborn, 2019; Shanahan & Cyrenne, 2021), regarding energy drinks (Health Canada, 2013; Kraak et al., 2020; Reissing et al., 2009; UNESDA, 2022); and for gambling-related measures (Hilbrecht et al., 2020; Livingstone et al., 2019; Puigcorb  et al., 2024).

Conclusions

Understanding addictive behaviors as a matter of individual freedom is a reductionist and simplified perspective that does not comprehensively address the complexity of these behaviors. It is essential to adopt a comprehensive public health approach that systematically addresses the problems related to addictive behaviors. This requires the implementation of control measures,

including effective supply reduction and environmental prevention strategies.

Experience in other fields (e.g., food, tobacco) shows that it is possible to generate significant changes in people's behavior through legal and regulatory measures (e.g., FCTC). It is important to recognize that assessing the effectiveness of environmental prevention measures on people's behavior is particularly complex. First, many of these measures have an impact that can only be observed in the medium to long term, which makes immediate measurement difficult. In addition, legal and regulatory interventions are often implemented within broad regulatory frameworks, which makes it difficult to isolate the specific effect of each action. Added to this is the complexity of social reality, where multiple factors interact simultaneously and make it difficult to establish direct causal relationships between a specific measure and a behavioral change. Likewise, evaluation is limited by the lack of representative and reliable data. In many cases, prevalence data in representative samples are not available, or the indicators used to measure change in addictive behaviors are not entirely accurate or objective (e.g., number of cigarettes smoked).

It should be emphasized that leaving these regulatory measures in the hands of the industries represents a considerable risk, since their economic interests conflict with the protection and promotion of health. Moreover, self-regulation has proven to be insufficient, which reinforces the need for strong, transparent regulation led by independent bodies committed to public health.

Finally, it is important to highlight that the activities of these industries materialize in society through the support and protection of other allied agents, such as political systems, sports organizations, scientific societies, and researchers. A deeper understanding of the strategies employed by these industries will raise awareness in society and strengthen the responses to address addictive behaviors more effectively.

Conflicts of Interest

The authors declare that they have no conflicts of interest in relation to the content of this article.

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Article

Uses and Abuses of the Four Aristotelian Causes in Psychology

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ABSTRACT

A comprehensive understanding of any phenomenon, according to Aristotle, requires an integrated consideration of the four causes that determine it: material, formal, efficient, and final. This Aristotelian conception of causality has been employed by authors from various scientific disciplines, including psychology. The present article reviews Aristotle's original conception of the four causes and its application to the study of human behavior, personality, and psychological disorders. The contributions of different authors are critically examined, and their strengths and weaknesses are highlighted. Finally, a radically human alternative is proposed, unifying the four causes at a psychological meeting point that takes into account the interaction between the individual and their context at an anthropic scale. This approach aims to overcome mechanistic reductionism and traditional dualism, offering a comprehensive perspective that integrates the biological, social, and historical dimensions in explaining human behavior and suffering.

Usos y Abusos de las Cuatro Causas Aristotélicas en Psicología

RESUMEN

Una comprensión completa de cualquier fenómeno requiere, según Aristóteles, considerar de manera integrada las cuatro causas que lo determinan: material, formal, eficiente y final. Esta concepción aristotélica de causalidad ha sido utilizada por autores de diversas disciplinas científicas, incluida la Psicología. El presente artículo revisa la concepción aristotélica original de las cuatro causas y su aplicación al estudio de la conducta humana, la personalidad y los trastornos psicológicos. Se examinan críticamente las aportaciones de diferentes autores, destacando debilidades y puntos fuertes. Finalmente, se propone una alternativa radicalmente humana que unifica las cuatro causas en un punto de encuentro psicológico, considerando la interacción del individuo con su contexto a escala antrópica. Este enfoque busca superar reduccionismos mecanicistas y dualismos tradicionales, ofreciendo una visión comprensiva que integre lo biológico, social e histórico en la explicación de la conducta y el sufrimiento humano.

Palabras clave

Aristóteles
Causalidad
Conducta
Personalidad
Psicopatología

Diversity of opinion about a work of art shows that the work is new, complex, and vital. (...) What art really reflects is the spectator, not life. Cultivated minds are those who find beautiful meanings in beautiful things. For these there is hope."

Oscar Wilde

Throughout history, different conceptual issues have traversed the field of psychology as a discipline that attempts to answer the question of why we humans do what we do. These positions have given rise to a plurality of approaches that have prevented the establishment of a common basis on which a unitary and cohesive discipline can develop.

The notion of causality has varied throughout history, defining which events are relevant for answering why a phenomenon occurs. Aristotle proposed that we can explain the "why" of things based on four aspects and, therefore, there are four causes: material, formal, efficient, and final. In order to fully understand things, it is necessary to address all four causes, as they are complementary forms. This approach has been used in fields as disparate as genetics (McAinsh & Marston, 2022), relational biology (Hofmeyr, 2018), and psychiatry (Singh & Singh, 2016), among others (Sfendoni-Mentzou, 2001).

According to the location of the causes of behavior, psychological theories can be classified as intrapsychic (internal to the subject), environmentalist (external to the subject), or interactionist (both) (Chiesa, 1994). These three categories derive from the Cartesian division *res extensa* (mechanical model of the reflex, efficient causality characteristic of the body) *vs res cogitans* (model of the will, final causality characteristic of the mind). The false dichotomy mind/environment, specified in psychology as inheritance/learning, has led to another false dichotomy, in which it is understood that different scientific fields use different forms of causality (efficient *vs.* final). According to this perspective, the natural sciences study efficient causes, due to the physical-contiguous relations maintained by the events of their field, and psychology studies final causes, due to their temporal or "distant" relations (Fuentes Ortega, 2019).

This article reviews the four Aristotelian causes and their application in psychology, seeking a point of convergence between the different proposals. In the first part, Aristotle's original approach is presented, defining its main characteristics. Next, the article explores how various authors have applied these causes to psychology. The points of agreement and disagreement are analyzed, as well as their closeness to the original conception. In the third part, the application of the causes to psychological problems is analyzed. Finally, an alternative proposal is put forward to serve as a psychological meeting point.

The Concept of Causality in Aristotle

Aristotle presents the concept of causation in *Physics* (2007a) and *Metaphysics* (2007b), on the premise that, although things are essentially dynamic and subject to change, they nonetheless possess real existence. Therefore, he attempts to seek a fundamental knowledge of why they exist, of their cause.

Material Cause

The material cause is the determinant that explains what a thing is made of. However, this determination is somewhat limited, since

the matter from which a thing is made is, by itself, not something determinate (Aristotle, 2007c). In other words, matter is potentiality; it determines only indirectly, insofar as it provides the possibility for certain forms. In the classic example, the material cause of a statue would be marble or bronze, which is the matter of which the statue is made, and with which the efficient cause interacts (Aristotle, 2007a).

Although there is a tendency to equate material cause with physical substrate, Aristotle's original conception does not necessarily imply this. For Aristotle, the material cause is what is necessary for certain things to exist—the premises or conditions that can take on certain forms (Aristotle, 2007b). It is, therefore, the subject of change (Aristotle, 2007a)—indeterminate matter. In this sense, the material cause of a phenomenon could be its physical, psychological, or social/institutional substrate, following the threefold division¹ of philosophical materialism (Bueno, 1972).

It is important to point out that, for Aristotle, matter, being potentiality, is only knowable insofar as it relates to the forms that determine it and allow it to be defined (Aristotle, 2007b). In this sense, just as the sculptor works with blocks of marble and not with molecules of CaCO₃, objects are only knowable as matter determined by specific forms at the human scale.

Formal Cause

The formal cause is the determinant that explains the form of an object, what it is in its essential nature. The form is the reason why that matter is something specific (Aristotle, 2007b). In the classic example, the formal cause of the statue would be its figure (e.g., the statue of Hera), the result of the efficient cause. Furthermore, every finite form (the statue) is, in turn, the matter for higher forms (such as a temple); it is the "second substance" of a "first substance" (Aristotle, 2007b).

Therefore, the formal cause—form or structure—is that by virtue of which matter can be said to be something determinate. A statue is marble with a form and, therefore, a statue must be a statue of something (e.g., of Hera), which necessarily implies an end or purpose. That is, the formal cause is *entelechy*, the final state in which an object has achieved its end or purpose.

In this sense, the notion of form is necessarily related to function or purpose. In Aristotle's classic examples, the entity of an axe would be "being an axe," which implies chopping wood. If that capacity is removed, it is no longer "an axe," except in name. If the eye were an animal, its soul would be sight, and the ocular structure would be the matter of sight, so if sight were removed, it would no longer be an eye (Aristotle, 2007b), as in the case of a sculpted or painted eye (like the pipe in Magritte's famous painting).

From the example of the eye, among others, we can deduce the inseparability of body and soul, since the end of the body is the soul, understood as the specific form of the organized body, which has the potential for life (Aristotle, 2007c). Each *entelechy*, therefore, would occur in the appropriate matter, in a particular body with potentiality (and not in another, nor in a different life history or

¹ The physical category, which includes corporeal-physical things given in space and time (M1), encompasses both objects at the human scale and subatomic entities (the domains of biology, physics, or chemistry). The psychological category, characteristic of the operations of subjects given in time (M2), includes human behaviors. The abstract category, which refers to things not given in their own time or space (M3), would include ideas and abstract objects (such as mathematics, scientific concepts, and ideas), as well as supra-individual entities (institutions such as language, norms, and cultural practices).

context). Therefore, the form would be the set of elements that constitute a given entity insofar as they are suitable for the relevant functions, that is, for its end (Aristotle, 2007c).

Efficient Cause

While the first two causes would be sufficient to explain immutable objects, objects subject to change would require two more causes to account for such changes. The first of these is the efficient or moving cause, which explains what initiates movement—how something came to be what it is now (the determinant of the actualization of potentiality). In the classic example, the efficient cause of the statue would be the sculptor who creates it, the one who sets the matter in motion or change and actualizes its potentiality, giving it *form* (Aristotle, 2007a).

The efficient cause most closely aligns with the modern concept of causation, understood as chains of cause and effect, or as paratactic or physically contiguous relationships (Bueno, 1978; Chiesa, 1994; Rorty, 1982). Its application in the psychology of logical positivism led to the adoption of a mechanistic scheme of human behavior, based on efficient causality through the Pavlovian S-R (stimulus-response) scheme (reactions or cognitive processes). These chains necessarily rely on the physics/biology of the individual, implicitly accepting the dualistic mind/body distinction discussed previously (Moore, 2013; Pérez-Álvarez, 2021).

Final Cause

The second cause that accounts for change is the final cause. This cause explains the purpose for which something is made or the goal of the change—its function. In the classic example, the final cause of the statue would be to adorn a temple (Aristotle, 2007a). It is important to remember the relationship between the formal and final causes. Considering that the form of an event or object is its essence, and that its essence is composed of the set of functions it fulfills, the formal and final causes form an interdependent pair (for example, if it did not have the form of Hera, it would not serve its purpose for the temple).

It has often been suggested that the final cause reverses the arrow of time, by implying that the “effect” occurs before the “cause.” In this sense, the statue is made before it adorns the temple. However, given certain prior conditions (a block of marble) and a change toward later conditions (a statue), the change stops when the need for that change has been satisfied—that is, when the change has fulfilled its function (decoration). The issue becomes clearer if we consider changes (such as the construction of the statue) not as isolated acts but as processes extended over time. That is, the cause of constructing a statue is to adorn the temple. Therefore, the final cause precedes the actual existence of the statue itself (Table 1).

Proposals for the Application of the Four Causes in Psychology

Howard Rachlin

Howard Rachlin has focused on describing efficient and final causes, understanding that the proper level for psychology is the

organism-as-a-whole behaving in its environment (Rachlin, 1992, 1995).

Rachlin clearly distances himself from methodological behaviorisms (including cognitivism), rejecting them as mechanistic. The efficient cause of behavior would be the set of environmental stimuli and internal mechanisms that precede a specific act (Table 1). To arrive at this definition, he draws from Skinner, who saw the behavior-reinforcer contingency as the efficient cause of subsequent increases in response rate (Skinner, 1938).

However, by drawing an equivalence between reinforcement history and soul, Rachlin considers reinforcement history to be a final cause. Thus, he extends the concept of reinforcement from an individual operant to a temporal pattern of behaviors through which reinforcement contingencies are understood. The final cause of behaviors would be the patterns of behaviors extended over time in which those behaviors are embedded (Rachlin, 1992). These patterns allow us to understand the reasons for behaviors, given that reinforcement contingencies often do not operate on specific behaviors; (“An individual lever press has no cause in exactly the same sense in which an individual event has no probability”; Rachlin, 1992, p. 1379).

On the other hand, if we were to consider a discrete operant (at the molecular level), the organism’s reinforcement history up to that point would form part of the conditions that precede the operant, since antecedents, from a psychological point of view, do not only refer to physical variables. A person does not move themselves, but is moved, in a psychological sense, by their past history (which explains the current behavior-reinforcer contingency). The soul in Aristotle, as habit or patterns of behavior, is the form that human nature takes, the habits oriented toward virtue, the final cause of what it means to be human.

Thus understood, the Skinnerian conception includes, more or less explicitly, the teleological notion of patterns extended over time. The very notion of personality as a *locus* where past and present converge (Skinner, 1974) is in line with Rachlin’s assertion about probability. In addition, the relevance of classes on the simple operant (Cuvo, 2000; Skinner, 1935) and the very concept of reinforcement history imply the notion of the operant as a sample from an extended behavioral repertoire that can only be understood in light of the organism’s life history (Skinner, 1950). In turn, the efficient cause as the initiating cause of movement does not exclude a temporal extension (Kantor, 1975; Skinner, 1953). Thus, the efficient cause of the statue was not the individual blows of the chisel on the marble but the sculptor, whose activity involves an extended pattern of chisel blows. In this sense, the operant in a Skinner box can be seen as behavior reduced to its minimum expression, a situation analogous to the vacuum in physics, which does not occur in natural situations.

Rachlin criticizes cognitive-behavioral therapists for their focus on antecedents (efficient causes) and their neglect of consequences (Rachlin, 1992). Although we agree with the critique of the search for “internal mechanisms” in terms of efficient causality, it is important to note that the very concept of consequence implies a context, a situation. Consequences are such with respect to a movement, to a behavior that, therefore, involves efficient causality. Both causalities are not replaceable but co-determinant, as long as they maintain the same explanatory level. Following the classic

Table 1
Applications of the Four Causes to the Psychological Field

Author	Material (<i>húlē/tūlē</i>)	Formal (<i>eidos/eídōs</i>)	Efficient (<i>kīnōūn/kīnoūn</i>)	Final (<i>télos/τέλος</i>)
BEING				
Aristotle (2007a, 2007b)	Potentiality. That which, by itself, is not something determinate. Necessary substrate with the potentiality to take form. Subject of change. Knowable matter.	Entelechy. That by virtue of which matter can already be said to be something determinate. Pattern, structure, or essence of things, which makes a thing what it is and not something else.	Moving agent. The source that causes change and explains how something came to be what it is now.	That for which change occurs. Its function or purpose.
BEHAVIOR (molecular)				
Rachlin (1992)	Physiological substrate and internal mechanisms.	n. a.	Environmental stimuli or internal psychological mechanisms that immediately precede the act. <i>The how.</i>	Patterns of behaviors extended over time, within which the act is embedded. <i>The why.</i> Utility functions. The sum of overt behaviors.
Killeen (2001, 2004)	Physiological substrate or internal mechanism.	Logical maps describing the change (learning models).	Triggers or sufficient /necessary initial conditions (conditioning parameters).	Function or final condition of change (adaptation to environmental changes).
Pérez-Álvarez (2009)	Organism as a whole.	Model as an action on which behavior is based.	Agent.	Function, in the teleological sense.
Ribes-Iñesta (2015)	Mediator of the interaction. Opportunity to respond according to the given circumstance in each field of contingencies.	Contingency structure. Effective relationship of actions within the field of contingencies.	Functional detachment.	Criterion for adjustment between what is possible and what is achieved. Degree of actualization of potentiality.
Martínez-Loredo	Life experiences involving being-in-the-world. Organism's relations with its physical environment.	Contingency structure. The essence of the behavior, involving a context in which action occurs and the consequences of those actions.	Contextual conditions in which behavior occurs and which evoke it.	Effects of actions on the world. Consequences involving contexts and behaviors, linking <i>eidos</i> with <i>telos</i> .
PSYCHOLOGICAL DISORDERS				
Pérez-Álvarez (2003)	Life problems.	Diagnostic categories. Content of disorders.	Subjects in extra-clinical, clinical, and research contexts.	Meaning. Function in the context of the person.
ADHD. Killeen et al. (2012)	Proximal: physiological substrate. Distal: genetic and epigenetic conditions.	Proximal: diagnostic categories. Distal: explanatory theories.	Proximal: immediate antecedents of symptoms. Distal: mechanisms of the organism that make it susceptible.	Proximal: function. Distal: evolutionary utility.
ADHD. Pérez-Álvarez (2017)	Behaviors that define the disorder.	Diagnostic categories.	Social practices that shape behaviors into disorders. Families, schools, and clinicians.	Functions they fulfill for different institutions, harmonizing their interests.
Schizophrenia. Pérez-Álvarez et al. (2008)	Crisis of common sense and the consequent social dislocation it causes. Pre-reflective consciousness.	Schizoid personality as a model of insanity.	Patients and clinicians, both influenced by cultural factors such as the Western conception of insanity.	Problem-solving style. Alarm to recognize crisis situations and request help.
Addictive disorders. Tucker et al. (2023)	n. a.	n. a.	Environmental events or internal psychological mechanisms that immediately precede the act.	Temporally extended patterns of behavior. Rates of behaviors/reinforcement.
PERSON/ALITY (molar)				
Pérez-Álvarez and García-Montes (2006)	Plasticity of the organism. Organism not strictly bound to its corporeality.	Functional totality of the organism. <i>Psykhé</i> , constituted in the socio-institutional environment in which they live.	Educational actions and social practices leading to becoming a person responsible for their own actions.	Personal ends, coordinated with the effects of their actions, in a circular sense where such consequences rebound on the person.
Martínez-Loredo	Contingency structure (involving basic behavior repertoires). Knowable matter of life. Relational behaviors with oneself (speaker as own listener, bidirectional operants).	Language as relational networks, narratives that organize identity. Dimensions of the self (content, process, and context). Relational context.	Social institutions, culture as the ecological niche unique to human beings. Human beings are born into an inherently social environment. Functional context.	Values. Effective action on the world. <i>Eudaimonia</i> .
PERSONALITY DISORDERS				
Ruiz Sánchez et al. (2024)	Relational behaviors with self and others.	Preclinical or social form: antecedent and consequent contingencies. Clinical form: diagnostic categories in clusters.	The person themselves with their lifestyle over time. Intersubjective relationships between concrete persons.	Avoiding or defending oneself from bad life situations or obtaining resources from others in a dysfunctional manner.
Martínez-Loredo	Language. Dimensions of self.	Preclinical or social form: networks of relationships. Clinical form: idem.	idem	idem

example, the sculptor may be one or another and, in that physicalist sense, efficient causality is of little relevance for a psychologist. However, at the phenomenological, human level, one can speak of the characteristics that a sculptor must have (efficient cause), regardless of *which* sculptor it is (material cause), that is, the form of the efficient cause. Finally, if the molecular/molar distinction is applied, one could speak, on the one hand, of simple or operant behavior (as isolated events localized in time), and on the other, of extended behavioral patterns or of the person as a broader unit of meaning. In this sense, efficient and final causes could be different for each level (for Aristotle, every finite form is the matter of higher forms).

Peter R. Killeen

Killeen (2001) draws from a critique of Skinner's supposed emphasis on efficient causality in psychology and the opposition to the use of other causes due to considering them "theorizations" (formal), "neuro-reductions" (material), or "propositional" (final) (Killeen, 2001, p. 3). However, we believe that Killeen's critique of Skinner does not correspond to reality and that it is limited to consider Skinner's statement "the study of the variables on which the probability of response is a function" (Skinner, 1950, p. 199) only in terms of efficient causality. In fact, Skinner proposes a purely Aristotelian approach, since when he talks about the function of behavior, he necessarily introduces a teleological dimension (a final causality), insofar as that function refers to the effects that behavior has in its context. In turn, this finalistic dimension requires a certain form—that is, an organization or structure that makes this function possible, which implies a formal cause. Hence, his critique of psychological theories can be understood as a critique of explanations that abstract behavior from its concrete form and function, operating at another level of observation and analysis outside psychology (Skinner, 1950). Thus, neurological, mentalist, or conceptual theories do not explain behavior but only add intermediate steps that require explanation.

According to Killeen, the material cause of behavior would be the biological substrates and the "internal" or covert mechanisms (Killeen, 2004). However, their exclusive use would not only be reductionist but would also establish an improper relationship with the form of the object it seeks to explain (Table 1).

The formal cause of behavior would be formal language (e.g., logical maps, differential equations) that serves as a transition model between initial and final conditions (in psychology, associative or computational conditioning models, the three-term contingency). From our point of view, the author falls into the error of considering the Aristotelian form as a mere description of the "physical" or "topographical" form. The formal cause in Aristotle is that by virtue of which matter gains meaning in light of its purpose (e.g., the formal cause of the statue is Hera, represented by her polos, regardless of the specific "physical" form). The formal and final causes are closely related and, therefore, we must seek the former in a structure that enables the realization of the latter, and not in a mere topographical representation or description of an event.

For his part, Killeen considers the efficient cause to be the triggering events that produce an effect or the initial conditions for the change of state to occur (e.g., the parameters that promote or

affect conditioning; Killeen, 2004). This definition of efficient causes seems foreign to his level of analysis, reducing them to their material parts². Considering the efficient cause as the initial conditions of change is to consider the marble block as the efficient cause of the statue. Considering the efficient cause simply as a trigger (such as the sculptor's chisel blows) is reductionist (e.g., the efficient cause of a child is the father, not the mere spatiotemporal contiguity between a sperm and an egg as parameters of fertilization). In fact, as Skinner notes in the article cited by Killeen, "most operants are emitted in the absence of relevant stimuli" (Skinner, 1950, p. 196).

Finally, the final cause is defined as the final condition that requires an evolutionary explanation in terms of adaptability to a changing environment that selects the most appropriate behaviors. Correctly, and in line with the nonspecificity of material causality, the author points out that the same final cause does not imply the same material cause. Moreover, events efficiently related to the effect are so by virtue of their prior relation to their final causality, in line with Rachlin (1992). Different topographies may satisfy the same function or, existentially, a person may face different life problems in the same way.

Marino Pérez-Álvarez

Pérez-Álvarez (2006; 2009) critiques Killeen's proposal by offering an alternative. Instead of the physiological substrate as the material basis of behavior, Pérez-Álvarez proposes the "organism-as-a-whole" as the malleable matter from which behavior is formed, defined by its functional capacity to act (potentiality). For Aristotle, potentiality always derives from a previous act, and in this sense, the capacity to act must stem from prior practice. Matter must exist at an anthropic scale, as a sculptor shapes a block of marble, not fragments or atoms of that material.

Considering the potential nature of matter, Pérez-Álvarez also includes the reinforcement history as a material cause of behavior—the shaping of behavior in a teleological sense (Rachlin, 1992)—which he understands similarly to Aristotle's concept of the soul (see Table 1). However, for Aristotle, the soul was the form(al) (cause) of the human being, conceived as living activity, as act, which is neither body nor can occur without it (Aristotle, 2007c). Reinforcement history cannot be assimilated to the soul, since it precisely limits behavioral possibilities, actualizing potentiality into a specific form.

According to Pérez-Álvarez, a more Aristotelian conception would be to consider as the formal cause the model that the behavioral agent follows or is based on, rather than the model the scientist uses to analyze behavior. In this sense, the formal cause would not be any internal representation or formal analogy of behavior but the very activity on which it is based: models that, as objective forms, establish the conditions of possibility for future behavior.

Here, Pérez-Álvarez contradicts his own position regarding the material cause. Furthermore, considering the formal cause as an objective form contradicts the Aristotelian conception of form as

² The material parts would be those that, composing a whole, do not allow its reconstruction because the form of the whole from which it comes from has already been lost (e.g., the sand from which a vase is made). Formal parts would be those that, composing a whole, allow its reconstruction because they still preserve the formal texture of the whole from which they come (e.g., pieces or parts of the vase).

essence. The form of behavior raises the question of its essence—what constitutes good behavior.

Related to the above, Pérez-Álvarez argues that the efficient cause is not so much the antecedent event(s) but rather the instructor or educator (Pérez-Álvarez, 2009), with the individual being the efficient cause of their own behavior. However, the author contradicts himself, as he also states that the potential for one's own behavior derives from the context in which it occurs (Pérez-Álvarez, 2009). The individual cannot move themselves but is instead an effect of the actions and education of others (Pérez-Álvarez, 2015). To address this possible *causa sui*, one could understand the agent—already included in the conception of the organism-as-a-whole—as the material cause of behavior. The potential actions of this organism would be the matter susceptible to acquiring certain forms. The entity that would realize these forms could be the antecedent-behavior contingency, including not only the specific events that parathetically³ precede the person's action but, from a molar perspective, the learning or life history, or, if you will, the context.

As for the final cause, there seems to be a consensus, although it specified that one should rather consider function as the behavior-reinforcer contingency at the ontogenetic level (Pérez-Álvarez, 2009).

Pérez-Álvarez (2015) and Pérez-Álvarez & García-Montes (2006) extend the application of the Aristotelian causality of behavior to the person(ality). To do so, they draw from the Skinnerian conception of personality as a *locus* of behavior—a point of convergence for past variables (reinforcement history) and present variables (contingencies) on which behavior depends. This locus or context is primarily given by language, in which contents are expressed (Pérez-Álvarez & García-Montes, 2006). The material cause of personality, therefore, would be the organism not as a biological entity but as the lived experience of the body. The formal cause would be the functional totality of the organism, socio-institutionally formed. The efficient cause of personality would lie in educational actions and social practices that shape the person responsible for their actions to achieve personal goals (final cause), through the effects of their actions that feed back onto the person (Pérez-Álvarez, 2015). Despite the laudable effort to extend the four causes to personality as a whole, we believe that this proposal is much more ambiguous and underdeveloped.

Emilio Ribes-Iñesta

According to Ribes-Iñesta (2015), the material cause of behavior is the mediator of interaction—the medium of contact that provides the organism with the opportunity to respond to a given circumstance within each field of contingencies (see Table 1). In this sense, the contingent relationship between antecedents (as context) and behaviors corresponds to Aristotelian potentiality, as it does not refer to any specific behavior. However, for the opportunity to respond to a circumstance to reach the phenomenological level of the person, the material cause must be specified in the conventional medium of contact mediated by language (as opposed to physicochemical or ecological; Ribes-Iñesta, 2007). Therefore, it is necessary to distinguish between the material cause of the

organism's behavior at the molecular level (discrete operants) and the material cause of the person(ality) at the molar level. A possible reformulation of this approach (implicitly suggested by the author; Ribes-Iñesta, 2007, 2015) would be to consider the contingency of occurrence as the material cause of behavior when analyzed at the molar level. The material cause would not be limited to the immediate physical medium of contact but would encompass the dynamic relationship between the organism and its surrounding world. The contingency of occurrence describes the potentiality for action—that which enables an organism to act actively in a given situation, not as a mechanical reaction but as part of a structure of opportunities and demands in the environment. In this way, the dualism of organism/environment is avoided, as behavior is understood as the mutual implication of the two terms (i.e., behavior as the expression of a disposition of the organism to respond and a configuration of the environment that evokes the response). On the other hand, the conventional medium of contact, which is exclusively human, articulated through language, and inclusive of the other media of contact mentioned above, would be the material cause of the person(ality) (Ribes-Iñesta, 2007).

The formal cause of behavior would be the contingent structure, not as a formal representation of behavior but as the effective relationship of the individual's actions within the field of contingencies. Along with material causality, the formal cause determines the initial moments of an episode, establishing the functional possibilities based on existing contingencies of occurrence and the boundaries of the field (Ribes-Iñesta, 2015).

The functional detachment of behavior would be its efficient cause, not as an agent responsible for a unidirectional effect but as the occasion to actualize the organism's potentiality (Ribes-Iñesta, 2015). Functional detachment describes how this interaction becomes autonomous or distances itself from strictly biological relationships (parathetical relationships between the physicochemical properties of objects and the organism's reactivity in a specific physical situation).

The distinction between functional detachment and contingency of function is, in our opinion, unclear in its relation to the four causes. While functional detachment describes the change in the relationship between functions, the contingency of function acts as a label describing such change (the updating of the contingency of occurrence). In fact, the author himself seems to contradict himself by understanding, on the one hand, functional detachment as the *updating* of the mediator of interaction (from contingencies of occurrence to contingencies of function) and on the other hand as the process that would explain this updating of the contingency of occurrence to that of function (as the *occasion* to update potentiality) (Ribes-Iñesta, 2015).

According to the Theory of Behavior (Ribes-Iñesta, 2018), psychological behavior requires the existence of biological or social behavior; thus, psychology does not have its own substance. This assertion raises the question of to what extent would it then be possible to apply the concept of cause (especially material and formal) to a phenomenon that has no entity of its own, but rather arises from the use of language and is characterized by transitions between biological-ecological and historical-social means. If psychological behavior is defined by the transition between ecological and social environments, it would only occur from the beginning of functional detachment until it ends. Therefore,

³ Parathetical relations are proximal, physical-contiguous relations, as opposed to apothetic, distal, temporal relations.

functional detachment would be the characteristic of the psychological and not its efficient cause.

Lastly, the final cause would be the criterion of adjustment between what is possible and what is realized—the degree to which potentiality is actualized. However, this conception of final causality as a result, rather than as the objective of the event under analysis, essentially departs from the teleological connotation that final causality has in Aristotle.

Applications of the Four Causes to Psychological Problems

As interactive entities⁴ (Hacking, 1996; Khalidi, 2009), human behavior and psychological problems are influenced by the practices that operate on them. Psychology and psychiatry not only describe, but also prescribe ways of acting (Foulkes & Andrews, 2023; Pérez-Álvarez & González-Pardo, 2007; Pérez-Álvarez et al., 2008), generating a psychologized society in which psychological terms permeate all areas of human life (Shrier, 2024).

Pérez-Álvarez has applied the four Aristotelian causes not only to human behavior but also to psychological disorders, seeking to understand how these *have become* real (Pérez-Álvarez, 2003; Pérez-Álvarez et al., 2008). The material cause would be life problems (conflicts, frustrations, changes) and the behaviors that constitute attempts to solve them. The formal cause would be the diagnostic categories, as shifting models of incorrect behaviors that these problems take on in modern society (Table 1).

The efficient cause would be both the medical/research professionals and the patients, immersed in a hyper-reflexive society⁵ and permeated by the medical model of illness. Life's problems thus undergo a double elaboration. Like an apprentice sculptor, the client presents their experiences to the clinician in terms of symptoms, although still without a defined form. The professional carries out the "second elaboration" that will shape the client's material, highlighting some characteristics over others and producing a final form, either dissolving its psychological density (depathologizing it) or increasing it (pathologizing it) (Pérez-Álvarez, 2003). The final cause would be the function these behaviors serve as attempts to solve problems within the person's context, beyond the molecular functional analysis of present situations.

Despite the interesting nature of this proposal, it raises certain doubts and contradictions. On the one hand, the material cause is conceptualized in some places as life issues, in others as the behaviors that have become problematic in their functioning, and elsewhere it is mentioned that the biographical context gives content (form) to the behavior, which would imply that these matters of life are efficient causes. Furthermore, the author attempts to articulate the phenomenological-existential approach with behavior analysis, relating the Aristotelian pairs "matter/form" to the existential binomial "disorder/existential concern", and the pairs "topography/function" from behavior analysis. Thus, disorders would be

understood not only as dysfunctional behavior patterns (topography), but as culturally instituted forms expressing life problems (matter) in a given biographical and normative context. The content and meaning of symptoms would thus be mediated by their function within the fabric of the subject's personal and social life. However, this attempt would imply identifying the material cause of psychological problems with the disorders themselves (instead of the formal cause) or with the topography of behavior (in its physical dimensions), rather than with the aforementioned life problems.

The author also suggests that the determination of the content of the disorder (material cause) depends on the conceptual system of the clinician, which would imply that there are as many material causes as there are systems. It seems more reasonable to think that psychological disorders will have a material cause described in different terms depending on the approach, raising the question of which description is most accurate. Beyond this global conception of psychological disorders, various authors have applied the four causes to specific problems.

Attention Deficit and Hyperactivity Disorder (ADHD)

Killeen et al. (2012) applied the Aristotelian causes to ADHD, dividing them in turn into distal and proximal, which, from our point of view, diverges from the original Aristotelian conception. Thus, proximal material causes (neurophysiological substrate, brain dynamics, or neuromodulatory systems) would explain the symptoms while distal ones (genetic and epigenetic conditions) would explain the disorder. The formal cause of the disorder is identified in the formal diagnostic criteria (proximal) and in the explanatory theories of the disorder (distal). This framework, therefore, would mean that the phenomenon itself (the problems included in the disorder) would have as many formal causes as there are explanatory theories.

On the other hand, the proximal efficient cause would be the immediate antecedents of the symptoms, whereas the distal efficient cause would be the "mechanisms" of the organism that make it susceptible to the symptoms. One might question the meaning of speaking of distal efficient causes, as well as the distinction between these and proximal material causes. The proximal final cause would be the positive and negative reinforcement of inattentive and hyperactivity behaviors, while the distal final cause would be the evolutionary utility of these behaviors.

Critiquing the circular reasoning of Killeen's proposal, Pérez-Álvarez (2017) highlights that the problems to be explained are inattention and hyperactivity, not ADHD or neurological substrates. Material and formal causes would come first, being interdependent with each other.

According to Pérez-Álvarez, the material cause of ADHD would be the very behaviors by which the disorder is defined. This would be the material that ultimately takes the form of a disorder through the effect of certain efficient causes "guided" by a final cause. These behaviors begin to become problematic when they disrupt the person's relationship with themselves or their environment. In this sense, Pérez-Álvarez's proposal remains at the anthropic scale, while Killeen's commits the mereological fallacy of breaking down the problem into sub-agential parts.

The formal cause would be the diagnosis, but, in this case, not as an entity in itself but as an objectification of a process of selection,

4 Natural entities are a type of reality characterized by being fixed, indifferent to the classifications, interpretations, and knowledge we have of them (i.e., neurons, a stone, a planet, neurotransmitters, etc.). Interactive entities are susceptible to being influenced by the classifications, interpretations, and knowledge we have about them. Human beings and all their operations fall into this category.

5 Hyper-reflexivity refers to excessive self-awareness, whether of a private event (e.g., a thought or emotion) or of one's own body. This awareness is excessive insofar as it disturbs and distances the person from contact with the world; when it loses its function of solving life's problems and becomes a problem in itself. In this sense, social institutions (educational, media, and especially those related to psychology, among others) foster self-reflexivity and rumination.

definition, and magnification of certain behaviors over others, which become "symptoms of". Like Killeen, Pérez-Álvarez includes explanatory theories, which guide the process of creating diagnoses.

On the other hand, the efficient cause would be the set of social practices through which these behaviors are shaped into diagnostic categories. The "sculptors" in this case would be first the families and schools and then the clinicians, who believe they are describing an objective reality while actually engaging in a discriminative process based on the forms (diagnoses) they know. The final cause would be the set of functions that problematic behaviors serve for the different institutions (school, families, pharmaceutical industry), extending beyond mere reinforcement processes (Table 1).

Schizophrenia

Based on the situated (contextual) and linguistically constructed nature of human beings, Pérez-Álvarez et al. (2008) suggest that the way in which one handles problems and their biological conditions is what usually gives such conditions their psychiatric meaning.

The material cause of schizophrenia could be pre-reflexive consciousness (Fuchs, 2010; Parnas & Sandsten, 2024; Pérez-Álvarez, García-Montes, & Sass 2010, Pérez-Álvarez, García-Montes et al., 2016). Alterations in this normally tacit, taken-for-granted sense of being a subject of consciousness (Parnas & Henriksen, 2014) would produce a crisis of common sense, with its consequent social dislocation: the disorder of ipseity that we call schizophrenia (Pérez-Álvarez et al., 2011). The formal cause would be the experiences of oneself that are current in the culture of reference. The authors consider the schizoid personality of modern society as the model (form) upon which schizophrenia is categorized.

The efficient cause would be both patients and clinicians, both influenced by cultural factors such as the Western conception of insanity, who play a significant role in the course of schizophrenia as a chronic and debilitating illness. The final cause of schizophrenia would be related both to a problem-solving style (e.g., delusions in response to hallucinatory experiences) and to the alarm it generates, which allows for the recognition of extreme situations and the seeking of help in response to them (Table 1).

Addictive Behaviors

Based on the application of matching law to behavior patterns extended over time and Rachlin's (1992) philosophy of teleological behaviorism, several authors have studied how discrete choices can produce coherent patterns of behavior, even when they seem irrational (e.g., problematic substance use) (Vuchinich et al., 2023). Tucker et al. (2023) distinguish only efficient and final causes for molecular acts of consumption.

The efficient causes are the environmental conditions in which the episode occurs. However, the authors also include "operations of private mechanisms that partially cause choices" (Tucker, 2023, p. 7), such as those measured by delay discounting or demand tests. This proposal, although on the right track, eliminates the anthropic scale of analysis due to its parathetic conception, falling into the same mereological fallacy as Killeen. Moreover, resolving this external-internal duality necessarily leads to explanatory reductionism (i.e., biological bases of such "internal mechanisms").

The final cause would be the set of molar environment-behavior relations that describe patterns of engagement in different activities over time (Table 1). In other words, whereas analyzing the efficient causes of a consumption episode would require focusing on the immediate antecedents of that consumption, to understand addictive behaviors one would have to analyze the variables that consistently covary with behavioral patterns—that is, the rates of different behaviors in relation to the rates of occurrence of various environmental events (Tucker et al., 2023).

It is important here to recall the criticisms of Rachlin's proposal regarding the use of the efficient/final cause pair as alternative explanations, as well as the inclusion of the temporal dimension only in the final cause, forgetting that the antecedents (efficient cause) are such due to a history of previous reinforcement. The molecular/molar distinction as behavior/person would lead to proposing different efficient and final causes depending on the level analyzed. Thus, the rates of differential reinforcement in a particular situation could be seen as the efficient cause of the "choice" to consume (vs. not consume). In contrast, molar reinforcement rates (e.g., values) could be seen as the final cause of non-consumption behavior. The asynchrony between molecular/molar reinforcement rates could explain short-term abstinence that is not maintained over time (Martínez-Loredo, 2023).

Personality Disorders

Regarding personality disorders, Ruiz Sánchez et al. (2024) made a proposal based on the generic framework of Pérez-Álvarez (Pérez-Álvarez, 2003).

For these authors, the material cause of personality disorders would be relational behaviors with oneself and with others, which take on a preclinical/social form as antecedent and consequent contingencies, and a clinical form as diagnostic categories grouped into clusters. On the other hand, efficient causality is found in the person themselves, specifically in their lifestyle and the intersubjective relationships with specific others. This conception of efficient causality falls into the same limitations previously noted with respect to the "agent" as the efficient cause of behavior. Moreover, it partially overlaps with the proposed material causality. The final cause is located in the functionality of these behaviors, such as the avoidance/defense against adverse life situations or the problematic acquisition of resources (Table 1).

From Materiality to Finality: A Psychological Meeting Point

Having explored the different applications of the four Aristotelian causes to behavior, personality, and psychological disorders, it is worth making a synthesis (Table 1) while maintaining the fundamental premise: for a comprehensive explanation of the phenomenon, all four causes must be used, all of them at the anthropic scale. Thus, the efficient cause of behavior cannot be found in biological substrates or in supposed "internal" psychological mechanisms that fragment the behaving person. At most, these subagential parts—substrates indirectly related to the caused object—could be material parts of behavior. However, since material causes do not, by definition, maintain the formal structure of the object and yet "internal" mechanisms are described in psychological terms, cognitive mechanisms cannot be material

causes of behavior, unless they are interpreted as biological mechanisms. The alternative is to consider them as psychological processes at the same level as any other behavior, being therefore objects of explanation and not explanatory subjects.

The Four Causes of Behavior

Given all of the above, the material cause of behavior, including psychopathology, would be life experiences (the actions and reactions of organisms). These involve an indivisible being-in-the-world: a relationship of an organism as a whole with its environment that serves as a base or indeterminate necessary substrate (thus, as potentiality), although it is presented at the anthropic scale (and is, therefore, knowable matter).

The formal cause would be the contingency structure, as a structure of possibility (vs. necessity) of the organism's relationships with its environment. For Aristotle, the demonstrative (scientific) syllogism reproduces in its own formal structure (premise-middle term-conclusion) the material structure of causation (Aristotle, 2007d). In this case, the contingency structure (antecedent-behavior-consequence or A-B-C), under certain conditions of temporal asynchrony between its consequences, could favor the maintenance of behaviors that we classify as problematic. Within this structure—which allows certain events to be given behavioral meaning—social patterns, normative models, and culturally mediated action schemes can also be integrated. In behaviors with a high verbal component and dependent on socialization processes, these elements do not contradict the contingency structure but are articulated within it, maintaining the A-B-C form. Their presence does not distort the function of this structure as a formal cause but rather enriches it. In the absence of such a form, we would probably be dealing with social phenomena of another order, not strictly psychological.

For Aristotle, the soul is the form of the body, which in turn has as its end the soul, as the vital principle that organizes and actualizes its structure. But the body is situated in the world and, therefore, behavior would be co-formed by life experiences (body-in-the-world, with its actions and reactions) and the recurrent contingency structure. Thus, if behavior is stripped of its structure (its relationship with the environment), it will cease to have the form of behavior and will become a "process" or "mental mechanism" in a vacuum, and a body-on-the-world, inert.

The efficient cause, the beginning of the "movement" under study, would be, more than the antecedent conditions in a parathetic sense, the relationship between *some* of these conditions and the behavior under explanation (antecedent-behavior relationships, which can take different "forms" such as models, rules, social norms, in short, the life history of the person). In other words, they would be specific events that, derived from life experience, configure that functional relationship between antecedents and behavior (as a matter specified in the history of "learning" or "life"). Contrary to common understanding, (operant) behavior would not be controlled or determined (teleologically) by its consequences, but is under (efficient) control of the existing conditions that signal the contingency relationship between a behavior and its consequences. In this sense, the culture that normalizes the forms and situations of distress based on certain models, and that takes the form of scientific and social studies and discourses, could be seen as efficient causes of psychopathology.

As has been agreed upon in most of the proposals, the final causality (the purpose of the movement, the "for what"), would be specified in the relationships between behaviors and their consequences. These consequences involve contexts and effective actions in the world, relating the *eidos* with the *telos*.

As can be seen, the four causes of psychological problems are simply specifications of the causes of generic behavior. Thus, a radically phenomenological, human point of view is proposed. This point of view allows for the integration of perspectives on a foundation given at the anthropic scale in order to understand not only behavior in all its aspects but also human suffering.

The Four Causes of Person(ality)

Attempting to explain human behavior from a molecular point of view, focused on the functional analysis of the immediate situation, is limited. An individual's circumstances have an extended temporal dimension that requires a molar analysis that attends to the broader context (metacontingencies, rules, existential concerns).

In this sense, a psychological reinterpretation of the difference between explanation (*Erklären*) and understanding (*Verstehen*), proposed by Karl Jaspers (Jaspers, 1913), becomes pertinent. This reinterpretation could facilitate the integration between existential approaches and behavior analysis. Thus, while functional analysis would clarify the matter/form pair, explaining behavior, narrative analysis would allow the identification of the meaning of actions, making it possible to understand them. We would be dealing with an analysis of the person(ality) rather than of the behavior, understanding that the latter constitutes the former. Consequently, psychological disorders or problems could be reconceptualized as disorders or problems of the person(ality) (Pérez-Álvarez & García-Montes, 2024).

Following the Aristotelian approach that every finite form is, in turn, the matter of higher forms, the contingency structure could be understood as the material cause of personality. Personality would be made of relationships, of life experiences already *in the form* of behavioral patterns extended over time that emerge without direct "learning" (Johnson & Street, 2023; Rehfeldt & Root, 2005).

Language, as networks of relationships and as narratives that organize the sense of agency or identity, would constitute the formal cause of personality. Like an alloy, the hylomorphism of the person as a (biological) human (verbal, relational) being implies not only the existence of an organism-as-a-whole that acts, but also that of language as a structuring tool (Pérez-Álvarez & García-Montes, 2006). From the perspective of Relational Frame Theory (Hayes et al., 2001), this network of symbolic relations forms a relational context that structures the subjective experience and articulates functions of the person (self as content, process, and context). Just as behavior was shaped by experiences+contingency structure, personality would be made up of contingency structure+language, which would give the experience a human texture.

Relationships with others and with oneself (as speaker and listener) would be both the form of the person and the material cause of the psychopathology of the person(ality), a new form enabled by language. The paradox is that, although language frees us from the natural contingencies of the here and now, it is also the condition of possibility for disorders (Fuchs, 2010). Complementing Ruiz Sánchez et al. (2024), the formal cause of personality

problems would be the networks of relationships with oneself and others, verbally mediated, which resonate in the intra- and inter-personal dimensions of the dimensional approaches to personality disorders.

In turn, the efficient cause of personality would be social institutions, culture as the ecological niche unique to the person, to the human *being* (functional context). The final cause would be given by values, which give meaning to life experiences through effective action upon the world. Following the Aristotelian analogy about what confers "axe-ness" to an axe, one could ask what makes a person a *person* and, therefore, what is their personality. Since the identity between *eidos* and *telos* implies that breaking the form nullifies the function, it is evident that behavior must always be relational and social. Without language, life experiences could not be articulated in values, as patterns extended over time. We would speak of psychopathology when a person becomes trapped in life situations that *debase* their behaviors, disconnecting them from their essence (purposes and values) and controlling them through the avoidance of suffering.

Conclusions

In this article, the four Aristotelian causes and their application to human behavior and psychological disorders have been reviewed as discussed by various authors. After identifying certain limitations, an alternative approach is proposed which, although grounded in the work of these authors, goes beyond their perspectives. This proposal situates the four causes of behavior and its disorders within a phenomenological framework, thereby avoiding reductionism. The approach is radically psychological and humanistic, conceived as a meeting point among different systems of psychotherapy.

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Article

Safe Care in Childhood and Adolescence Under Guardianship: Contributions From Attachment Theory

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ABSTRACT

In Spain, according to the *Observatorio de la Infancia* [Spanish Children's Observatory] (2024), 51,972 children and adolescents were being cared for in the protection system. The scientific literature highlights the serious risks that the disruption of family ties and placement in residential care centers pose to children's development. It also identifies factors that contribute to improved care in residential placements. These factors include the nurturing of social interactions, the stability of social bonds, and the development of meaningful attachment relationships. In this article, based on the framework of attachment theory, we describe the criteria to consider in the design and organization of residential care centers. We also emphasize the importance of specialized training for educators and professionals who comprise child and adolescent care teams within the protection system, in order to promote the development of a secure attachment bond between children and adolescents, and professional caregivers.

Cuidados Seguros en la Infancia Bajo Tutela: Aportaciones Desde la Teoría del Apego

RESUMEN

En España, según el Observatorio de la Infancia (2024), 51.972 niños, niñas y adolescentes (NNA) estaban atendidos en el sistema de protección. La literatura científica destaca los graves riesgos que supone la ruptura de los vínculos familiares y la crianza en centros de acogida para el desarrollo de los menores. También señala los elementos que pueden optimizar la atención en el acogimiento residencial. Estos aspectos incluyen la calidad de las interacciones sociales, la estabilidad en los vínculos y la construcción de relaciones afectivas significativas. En este artículo, basado en el marco de la teoría del apego, describimos los criterios a tener en cuenta en el diseño de los proyectos y organización de centros de atención residencial. Asimismo, destacamos la importancia de la formación especializada de los educadores y profesionales que integran los equipos de atención a la infancia y adolescencia en el sistema de protección en base a promover el desarrollo de un vínculo de base segura entre NNA y cuidadores profesionales.

Palabras clave


Apego

Cuidado Residencial

Políticas de Protección a la Infancia

Regulación Emocional

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Attachment theory describes the tendency of human beings to form strong emotional bonds with other people and explains how the separation and loss of such bonds can negatively affect emotional and psychological development, generating reactions such as anxiety, anger, depression, or detachment behaviors (Bowlby, 1977). According to this theory, attachment is a primary motivational system that develops through the infant's early interactions with the caregiver figure.

Although attachment is manifested through behavior, attachment patterns (constituted by the synthesis of repeated procedural memories of childhood interaction with the attachment figure) in themselves do not constitute attachment. Attachment is something internalized that includes aspects of desires, feelings, expectations, and intentions that provide a filter for the interpretation of interpersonal experience (M. D. Ainsworth et al., 1978). Bowlby's Internal Functioning Models are mental representations, which condition one's relationship with the environment and especially the trust and expectations established with other people.

Throughout the life cycle we can observe a tendency towards continuity in the attachment pattern established in the early years, especially when the same attachment figures have been maintained. However, life events or changes in attachment figures or caregivers may cause discontinuity and alter these attachment patterns and representations. Depending on the attachment experiences, the individual can improve or worsen the organization of their attachment system and gain or lose security. Hence the benefit of the application of attachment theory in parenting, care, and clinical work with children and adolescents.

The Effects of Residential Care

In his report to the WHO in 1952, Bowlby stated:

"There is now sufficient evidence to support the general conception that prolonged deprivation of maternal care produces not only serious damage but also lasting effects on the child, which alter his character and so disturb his whole future life." He also noted out that "(...) there are still very few systematic studies, very few comparative statistical studies with appropriate control groups (p.53)".

The current situation differs from the one Bowlby described in the 1950s, when most children, for various reasons, were institutionalized at an early age. Nowadays, the separation of children and adolescents from their respective homes and attachment figures usually responds to the detection of situations of child abuse and the parents' difficulty or incompetence to provide adequate care for their children. In a significant percentage of cases, this leads to the children being cared for in families or residential care centers while parental recovery and reunification efforts are underway, which are not always successful.

Despite the evident improvements implemented in the care of children in residential settings, authors such as van IJzendoorn et al., 2020 continue to argue that residential care can be considered a form of structural neglect, with negative consequences on physical, cognitive, and socioemotional development. These authors even speak of institutional deprivation (van IJzendoorn & Bakermans-Kranenburg, 2024).

A recent meta-analysis (van IJzendoorn et al., 2020) covering more than 100,000 children and adolescents in more than 60 countries revealed that upbringing in residential care centers is associated with significant delays in physical and cognitive development, as well as a higher prevalence of insecure and disorganized attachment. The effects are more severe when children enter residential care at an early age. For this reason, many countries promote alternative models of care, such as foster care, adoption, or kafalah (in Arab countries).

This meta-analysis is the most important study to date on children and adolescents cared for in residential care centers; however, it has some limitations. First, the analysis encompasses very different structures, forms of organization, and restorative care experiences that vary greatly in the different countries, reflecting differences in child protection policies and progress in safeguarding children at risk or in conditions of neglect, so its negative effects should be analyzed in light of these differential factors. In addition, many of the included studies assess the developmental, psychosocial, and mental health problems of children and adolescents in care in a correlational or quasi-experimental manner and do not include data on the baseline conditions. For example, little is known about their initial developmental level or the impact of prior maltreatment or trauma on their personality and psychological functioning before entering care. Only the Bucharest Early Intervention Project, a study included in the meta-analysis, conducted pre-placement assessments and included a comparison sample of typically developing children of the same age and from the same country. However, the meta-analysis does not offer results stratified by country, and the living conditions described for institutional care are not directly comparable to the current situation in Spain. Therefore, caution is warranted when directly transferring its conclusions to the Spanish context.

According to data published in 2024 by the *Observatorio de la Infancia* [Spanish Children's Observatory], the number of children and adolescents cared for by the public child protection system was 51,972. Of these, 18,097 were in family foster care and 17,112 in residential care. The vast majority of those in residential care were aged 11-17 years (14,115), with 1,797 aged 7-10 years, and only 1,200 aged 0-6 years (Ministerio de Derechos Sociales y Agenda 2030 [Ministry of Social Rights and Agenda 2030], 2024).

In terms of the number of centers for the protection of minors, there are a total of 1,119 regular centers and a further 96 centers that specialize in minors with behavioral problems. However, as competencies are decentralized, there is significant variation among autonomous communities regarding policies, resources, and funding. For example, according to Miriam Poole et al. (2022), the average cost per child per day is 112.70 €, but it ranges from €80 in Santander to €198 in the Basque Country, which could directly impact the quality of care provided.

Research into outcomes for children and adolescents in care in Spain remains limited. González-García et al. (2023) conducted a 24-month follow-up of 492 children aged 8-17 years with mental health problems in 13 regions. They found highly diverse trajectories: 29.9% maintained good mental health, 26% improved, 23.5% deteriorated, and 20.5% showed no change. The study underscores that referral to mental health services is insufficient if staff are not specifically trained and if the quality of the residential environment is not addressed. Nevertheless, the study does not

provide information about the quality of care or the organizational conditions of residential settings.

Horno Goicoechea et al. (2025) evaluated a training program in Asturias based on attachment theory, trauma, and children's rights. The initiative proposes changes in the organization of the centers, aimed at improving the continuity of care for children and adolescents, as well as providing care for caregivers themselves and addressing staff training needs. The model promotes 'conscious affectivity', requiring a shift in the way we look at disruptive behaviors, understood as expressions of pain and harm experienced during development. It also proposes never questioning the children's ties with their family of origin, because these relationships represent their sense of belonging and form a core part of their identity. The program was implemented for 75% of the staff of the protection centers. After this training for caregivers, the children and adolescents perceived improvements in the quality of care, highlighting greater perceived safety and support at night (64%). They also valued better management of transitions, notably through the swift assignment of a key caregiver, increased flexibility of staff during meals, and enhanced communication and dialogue with caregivers.

Factors that Improve Residential Care

Few studies have explored the factors that can improve residential care. A prominent example is that of the St. Petersburg Orphanage (Crockenberg et al., 2008), which identified two key factors: staff training to promote sensitive interactions and the creation of structures that facilitate primary caregiving in small, stable groups. In Spain, the intervention model proposed in Asturias mentioned above and endorsed by UNICEF also addresses these two areas (Horno Goicoechea et al., 2025). Additionally, the research carried out by Júlia Sánchez (2022) in the Community of Madrid identifies residential care factors that seem to enhance the well-being of children and adolescents, as well as their representations of attachment.

In this paper—based on attachment theory, research on the developmental effects of residential care, and clinical and educational experience with children and adolescents in care—we reflect on the organization and caregiving in these settings, identifying factors that may foster the development of secure attachments between residents and their caregivers.

Van Ijzendoorn and Bakermans-Kranenburg (2024) draw some conclusions from their research on institutional care:

1. Social interactions with significant others are an integral part of the basic needs of the developing child or adolescent. Social interactions are needed for growth and development of physical, social, and cognitive competencies.
2. Continuity of care is essential, as fragmented care creates atypical attachments, growing insecurity, and increasing distrust of others.
3. Children and their caregivers need a small, transparent, and reliable social network that can provide the support they need in times of anxiety, stress, distress, or illness.

These conclusions, together with the potential harmful effects of residential care, make it necessary to consider the benefits of incorporating attachment theory into both the organization of care

centers and the training and sensitivity of care teams. These proposals will be elaborated upon in the following sections.

Social Interactions and Secure Attachment

Fostering secure attachment between children and adolescents and their caregivers has significant benefits for their physical and mental health. This principle, fundamental in attachment theory, can be applied not only in family contexts, but also in therapeutic and educational settings. In child protection centers, the care team holds a privileged position due to the frequency and closeness of their relationship with the resident group.

To promote emotional well-being, centers must offer a secure base, both materially and emotionally, that provides protection and support. This requires sensitive, consistent, and continuous care in which interactions are responsive to the child's needs. As Marris (1991) notes, positive attachment experiences are characterized by predictability, responsiveness, comprehension, and the provision of support and commitment.

Children and adolescents who have experienced maltreatment or neglect often develop profound distrust toward others, which can manifest as difficulties forming stable relationships. In many cases, the distress caused by uncertainty or new relationships may trigger emotional and behavioral dysregulation. Although this distress may not always be immediately visible, it should be appropriately detected and regulated by the care team.

Support

Support during adolescence must be sensitive to each individual's developmental stage and personal characteristics. As Bowlby stated, the process should neither proceed too quickly nor too slowly. The physical and emotional presence of the key caregiver, alongside acknowledgment of the adolescent's qualities, is fundamental. Many young people seek validation they did not receive in their homes, which sometimes translates into delinquent behaviors. In such cases, the care team should strive to recognize and value the child or adolescent's abilities, providing an alternative source of validation.

An educational approach that does not take into account psychological suffering is insufficient in many cases. These children and adolescents do not typically respond to the standard procedures based on positive and negative reinforcement. Disciplinary measures are not interpreted as consequences of their own actions but rather as the habitual behavior of abusive attachment figures. Such educational interventions may be perceived as new forms of maltreatment, increasing the risk of re-victimization. Consequently, the care team may experience feelings of distress and helplessness when confronted with persistent behavioral and emotional manifestations in adolescents.

Adolescents who present a complacent and submissive profile may give the impression that they suffer less and require less attention, and they may even go unnoticed by the care team. However, this is also an adaptive defensive response that in the long term may be dysfunctional or constitute a greater risk of pathology in the future. Therefore, the team must be attentive to these signals.

The sensitivity of caregivers is also key. According to Ainsworth (1978), sensitivity involves three components: correctly perceiving

verbal and nonverbal safety-seeking signals, interpreting them appropriately, and responding to them as quickly as possible. If these signals are misinterpreted or ignored, further insecurity and mistrust may be generated.

In addition, it is essential to help children and adolescents dignify and process their personal history. This includes respecting their privacy and treating personal information with care, both within the residential context and in inter-agency collaboration. It is common for children and adolescents to feel distressed due to such high levels of exposure about their lives, since many people in their environment know details of their history. Respecting their privacy is crucial to prevent feelings of vulnerability and revictimization. Reflection is needed regarding which aspects of their lives are shared within the team and who has access to this information. Great care must be taken when managing information, and public references should never be made to topics that residents themselves have not disclosed.

Peer groups can be spaces that foster growth and socialization, but they may also generate conflicts and rivalries that complicate the work of the care team. Therefore, it is important for the team to have spaces for reflection and self-care where they can share their experiences, gain perspective, and manage the emotional impact that this work implies. External supervision can be a valuable resource in this process, helping teams to maintain a healthy emotional distance and to make decisions in a reflective manner.

Emotion Regulation

It is essential to understand the mechanisms of emotion regulation of children and adolescents. This support is crucial to develop adequate capacity for emotion regulation, as during their development, they require external assistance to manage their emotions.

According to Allan Schore (1994, 2003a; 2003b), childhood is where the first chapter of the human drama is played out; it is the context in which the mother figure and the baby experience either connection or disconnection in their vital emotional communication. This "expressive-affective communicative dance" lays the foundation for attachment and opens the child's mind toward both their own emotional states and those of others, as well as toward understanding the world. Early interactions—including affective synchrony and reciprocity between the maternal figure and infant—are key to understanding the development of emotional self-regulation capacity. These interactions begin at birth and can be observed in infants as early as two weeks old (Meltzoff & Moore, 1989).

A very brief review of the development of this capacity begins by recalling the differentiated function of the two cerebral hemispheres. The left brain, according to Schore, communicates its states to other left brains through speech, language, and conscious memories, whereas the right brain communicates its non-conscious affective states and emotions to other right brains through non-verbal communication processes. The right hemisphere, whose maturation begins in the last trimester of pregnancy and lasts until the end of the second year of life, is specialized in capturing attachment experiences, communicative-affective exchanges with the mother and other attachment figures, as well as the recognition and "reading" of emotions expressed through another person's face,

voice, and gestures. Later, the left brain will be able to name these emotions and affective states, permitting in childhood the beginning of communication of one's unique experiences to others.

Schore emphasizes that these communicative and emotional exchanges between attachment figures and the child are of paramount importance. If parental responses do not match the infant's intrinsic motivations and maturation process, damage to brain systems can occur. Such damage can impair cognitive and affective capacities evident in early childhood or manifest later—in adolescence or adulthood—when the brain structures involved in emotion regulation and reflective consciousness become functional. For example, this may affect competencies such as the ability to tolerate life's frustrations, sensitivity to others' emotional signals, and capacities for resilience and empathy.

Individuals are not born with a mature system of emotional and behavioral regulation; in childhood, prolonged assistance is required to contain emotions. This process is shaped in response to the baby's experiences (taking into account its genetic predisposition and innate temperament). Everything that happens to the infant contributes to the developing brain's emotional and perceptual map of the world. It is important to recognize that cortical inhibitory controls—which later enable the regulation of affective states—develop very gradually. For example, between two and four months of age, neurophysiological changes begin in the brain that allow the emergence of early inhibitory responses. Between nine and ten months, the frontal cerebral lobe and its associated neural circuits embark on their long maturation process, which does not end in early childhood nor even during adolescence (Thompson, 1994). It is important for the care team to understand that, throughout this extended period, these structures need external support to develop effectively.

Initially, this support stems from the mother-infant or father-infant interaction; however, in their absence, caregivers must fulfill this regulatory function. Sullivan and Gratton (2002) highlight the maternal regulatory role in the development and maintenance of synaptic connections involved in the development of cortical structures responsible for the capacity for inhibition and emotion regulation.

Even after these capacities have achieved notable development, unexpected frustration, life crises, or coping with stressful events can lead to a temporary loss of homeostatic balance in regulation abilities, necessitating renewed external assistance to regain internal control. It is likely that these stressful situations and dysregulated states have occurred at a higher level and frequency in the children and adolescents under the guardianship of the administration. Judging by their life histories, they are likely to have received limited regulatory support from attachment figures during normative emotion regulation processes. Consequently, understanding their limited capacity to contain frustrations and setbacks typical of life in a residential care center may, in fact, represent the first and most fundamental task for the care team.

The emotion regulation capacity that caregivers can offer depends to a great extent on the affective bond that can be established, a large part of which is built through non-verbal communication—an aspect possibly underestimated in the training of care teams working with children and adolescents experiencing difficulties in impulse control, behavior, and emotions. It is the tenderness that emerges in the face, in the voice, in the slow

gestures, the holding of a gaze that genuinely tries to understand, to be sensitive to emotions, the way of transmitting support, humor, even the way in which a key caregiver "approves" or "disapproves". In other words, the moment-to-moment "goodness of fit" that is transmitted in the inter-subjective dialogue opens a channel to the right brain in childhood. This nonverbal regulation proves far more effective in managing emotional crises than cognitive verbal reasoning. Consistent with Schore's perspective, it is, in fact, the emotional containment capacity of caregivers, the warm and protective atmosphere they offer, that is most necessary in moments of behavioral disorganization. It is precisely this type of relationship and affective regulation that can, over time (and thanks to neuroplasticity), produce neurobiological changes in the frontal circuits of the right cerebral hemisphere that facilitate mental health, damage repair, and therapeutic progress (Feinberg & Keenan, 2005; Decety & Chaminade, 2003).

In this regard, it is crucial to understand that the internal working models of the attachment system are essentially synaptic connections formed as different affect regulation strategies and encoded in implicit memory. In other words, these are dynamic structures that define subjective experience in childhood and organize schemas for relating to the world and others.

In summary, caregivers with a greater capacity to identify, understand, regulate, and reflect on emotions will be better equipped to support the care team and help children and adolescents become more emotionally prepared and thus better able to cope with stressful events in the center (Santander et al., 2020).

The Continuum of Care. Making the World Predictable

Each change of location imposes new losses on the child—of caregivers, friends, school, and environment—which reactivate those already experienced in the separation from their parents. Bowlby (1951) warned that the interruption of emotional bonds can generate emotional and behavioral disorders. These repeated changes are associated with increased psychopathological, school, and cognitive problems (Almas et al., 2020; Newton et al., 2000). Although relocation is often considered to be a response to the child or adolescent's behavioral problems, research has shown that transfers are independent of pre-existing issues and frequently motivated by administrative or policy reasons (Almas et al., 2020; Newton et al., 2000). Furthermore, residential placement changes are the primary factor associated with subsequent difficulties in social integration, even more so than a history of abuse or neglect (Fernández et al., 2003). Therefore, repeated changes in residential placement should be avoided, along with everyday uncertainty, since predictability is a crucial aspect of development. A predictable and structured environment is essential for the emotional security of children and adolescents in care.

How can predictability be promoted in a residential care setting?

The structure and organization of the facility must be clear and consistent. Decisions related to the child protection system and the well-being of children and adolescents should always be individualized, considering the specific characteristics of each child and their families. While general guidelines may be established,

these must remain flexible enough to be adapted to each particular case.

It is essential that children and adolescents are informed about changes in staff shifts and absences of their reference figures, whether due to vacations or cessation of employment, allowing them to anticipate and manage transitions. When significant individuals or primary caregivers leave, it must be handled with sensitivity and clarity, explaining that these decisions are personal and unrelated to the child's own behavior. This is particularly important to prevent children—due to their history of trauma—from feeling responsible for the actions of adults.

Furthermore, transitions involving the entry or departure of a peer must also be appropriately managed. It is important to pay attention to or anticipate the possible reactions and consequences of such changes, since they can generate feelings of anger, fear, or anxiety, especially if not properly communicated. Announcing these changes in a reflective space enables the expression and healthy processing of emotions. Similarly, goodbyes should be carefully planned, providing space for processing feelings of loss.

The presence of reference figures is key for reducing anxiety during significant transitions, such as entering a new center, changing rooms, or transferring to a new school. Additionally, maintaining connections with significant individuals from the previous center—through scheduled visits or meetings—strengthens the sense of continuity and security. As attachment theory suggests, these transitional spaces help children and adolescents cope with change in a less traumatic way.

The Importance of a Clear Internal Structure

The existence of an internal structure with established schedules is another factor that contributes to the predictability and emotional organization of the care group. However, this structure must be flexible enough to adapt to individual needs. Allowing dialogue and participation of children and adolescents in decisions related to the center's rules gives them a sense of belonging and helps them perceive the environment as more predictable and less arbitrary.

Although unforeseen situations—such as agitation among peers—are inevitable, if these occurrences can be discussed and processed with the group, the center can continue to be perceived as a safe and trustworthy place. Coherence in intervention and consistency in the care team's responses are key to consolidating this perception.

Another relevant aspect in the emotional protection of these children and adolescents is respect for their personal belongings and privacy. Belongings, though they may be few, often carry important symbolic value, since they represent the bonds and experiences accumulated throughout their lives. Respecting these objects and allowing the children and adolescents to keep them, even during changes of residence, helps maintain a sense of continuity in their identity. Institutions and care teams must take particular care to preserve this privacy and ensure that personal experiences are not violated or shared unnecessarily.

The Group as a Space for Socialization and Growth

The peer group dimension can be a valuable resource for social and emotional development, but it can also be a source of conflict

and rivalry. The group can function as a space for socialization that favors growth and mutual support, or it can become a scenario of tensions that complicate the work of the care team.

It is essential that the teams are prepared to manage these group dynamics, providing an environment that fosters respect, cooperation, and constructive conflict resolution. It is important to incorporate professional supervision within residential centers. This provides a reflective space that provides emotional support and care for staff, helping them to perform their role more effectively.

A Reliable Support Network for Moments of Anxiety, Stress, and Illness

It is necessary to define a small network of attachment relationships for each child or adolescent so that they know whom they can trust and turn to in times of anxiety, illness, or potentially traumatic experiences. They should be able to count on having one or two key reference figures (tutors) in their residence, who are especially dedicated and available to them. The role of these reference figures goes beyond care functions and should embody the qualities developed throughout this work: a) they must be capable of providing clarity and predictability, so that the children and adolescents know, from the moment they arrive at the center, who their reference figure is and how to access them; b) they must have a special sensitivity to understand them at all times, and be willing to respond quickly to their demands, striving to provide the best possible support; c) they must provide physical and psychological availability, meaning more dedicated time and an appropriate attitude; d) these figures act as necessary mediators within the care team when problems arise, and also serve as intermediaries with schools, health centers, and other relevant institutions.

The institution must ensure that family ties are maintained. According to the International Work Group on Therapeutic Residential Care (Whittaker et al., 2017), it is important to preserve and strengthen the bonds between the child or adolescent and their family whenever possible. The educational team should work to support these bonds, paying special attention to sibling relationships, without unnecessarily confronting the idealizations children and adolescents may hold about their families, as these idealizations serve as a defense mechanism that helps them preserve positive aspects of their parental figures.

Caring for the Care Team

Before concluding, we must emphasize that the profiles of children and adolescents in residential care centers are typically marked by traumatic experiences such as abuse, maltreatment, and neglect, which presents additional challenges for the professionals responsible for their care. This context requires great emotional capacity on the part of the care team, who must manage complex behaviors and difficult emotional responses, such as distrust or behavioral dysregulation. Working with children under custodial care requires professionals to serve as models of regulated behavior and emotionality.

However, if we analyze the conditions in which the professional teams work in the centers, it is evident that caregiver-to-child ratios are often low, and staff turnover is a persistent issue. This is due to the fact that the work related to residential care is undervalued, often

poorly compensated, and entails a heavy emotional burden (van IJzendoorn & Bakermans-Kranenburg, 2024). Therefore, in addition to advocating for improved working conditions, it is critical to enhance caregivers' emotion regulation and coping skills through the development of preventive programs that foster these competencies. Caregivers who find meaning in their work are more likely to achieve a balance between their emotional and professional capabilities, thereby supporting healthy and constructive relationships and environments.

It is essential that care teams receive training in attachment theory, trauma, and the developmental trajectories of children and adolescents. This will enable staff to better understand the children's reactions and adapt their intervention effectively, thus promoting the healing of emotional harm. Care teams must attend to their own mental health due to the emotional impact of sustained exposure to childhood and adolescent suffering. It is essential that these teams have opportunities for reflection and self-care, which will allow them to process experiences together and gain enough emotional distance and perspective to facilitate their decisions. External supervision can assist this process.

When a caregiver becomes an attachment figure (a subsidiary attachment figure), they have the potential to transform the child's emotional processes, coping strategies, and internal models of functioning. For this reason, specific training in emotion regulation strategies and attachment theory is a fundamental requirement to facilitate the social and emotional competence of the child and their ability to manage potentially stressful situations.

Future Directions

It is important to consolidate stable reference figures for each child or adolescent, designing organizational arrangements that ensure the constant presence of one or two adult reference figures for each child or adolescent, while reducing staff turnover. This facilitates the creation of sustained bonds of trust. Such a model requires stable working conditions and conscious planning of the role of primary caregivers.

Residential placement changes should be minimized due to the risks posed by repeated losses. When such changes do occur, it is necessary to involve reference figures from both the outgoing and receiving centers—for example, through joint meetings with the child or adolescent—to ensure continuity and facilitate trust with the new team.

Given the solid empirical foundation of attachment theory, it is essential to develop training programs for child protection educational teams that integrate this theory along with emotion regulation strategies and trauma-informed approaches, aiming to equip professionals to intervene sensitively and appropriately with children under protective care.

Ongoing research is needed to identify conditions that improve residential care and to establish quality standards incorporating the principles of attachment theory.

It is recommended to establish support spaces for the care team, since working with traumatized children and adolescents can be emotionally demanding. Thus, spaces for supervision and reflection are necessary for professionals to share experiences, prevent emotional burnout, and receive support. The well-being of the team is a cornerstone of the protective environment.

Each child and adolescent should be ensured a network of significant adults they can trust in times of anxiety, distress, or stress. This network may include figures from the residential center, family members, community references, or important individuals from their past.

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Conflict of Interest

There is no conflict of interest.

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Article

Acceptance and Recovery Therapy by Levels for Psychosis (ART): A Contextual and Integrative Model

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ABSTRACT

Acceptance and recovery therapy for psychosis (ART) is an innovative psychological intervention designed to address psychotic spectrum disorders from a contextual and integrative perspective. Rooted in acceptance and commitment therapy (ACT) and the principles of behavioral-contextual science, which emphasize the study of behavior in interaction with its environment, ART provides tailored therapeutic strategies to meet the specific challenges of psychosis. This interdisciplinary approach integrates ACT techniques with elements from other therapeutic models, always framed within a person-centered and context-sensitive perspective. Furthermore, ART allows for the flexible adaptation of interventions, adjusting them to each individual's cognitive and functional level. This article presents the key components of the ART model and explores its potential to improve clinical practice by fostering more personalized, values-based care. Ultimately, ART contributes to the development of more effective and meaningful interventions for individuals experiencing psychosis.

Terapia de Aceptación y Recuperación por Niveles para la Psicosis (ART): un Modelo Contextual e Integrador

RESUMEN

La Terapia de Aceptación y Recuperación para la Psicosis (ART) es un modelo innovador de intervención psicológica diseñado para abordar los trastornos del espectro psicótico desde una perspectiva contextual e integradora. Basado en la Terapia de Aceptación y Compromiso (ACT) y en los principios de la ciencia conductual-contextual, que enfatizan el estudio del comportamiento en su interacción con el entorno, ART ofrece estrategias terapéuticas adaptadas a los desafíos específicos de la psicosis. Su enfoque interdisciplinario combina técnicas de ACT con elementos de otros modelos terapéuticos, siempre enmarcados en una perspectiva centrada en la persona y su contexto. Además, ART propone una adaptación flexible de sus intervenciones, ajustándolas al nivel de deterioro cognitivo y funcional de cada individuo. Este artículo describe los componentes clave del modelo ART y su potencial para mejorar la práctica clínica, promoviendo una atención más personalizada y basada en valores, con el objetivo de ofrecer intervenciones más eficaces y significativas para personas con experiencias psicóticas.

Palabras clave

Psicosis
Terapia
Deterioro cognitivo
Terapia de Aceptación y
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Ciencia conductual-contextual

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The treatment of psychosis has evolved from disease-centered approaches to models that prioritize functional recovery and adaptation to the environment. Research has shown that the psychotic experience cannot be explained solely from a biological perspective but rather results from the interaction between biological, psychological, and social factors (McCutcheon et al., 2021; Torrey, 2023; Dumas-Mallet & Gonon, 2020). In this context, current interventions have adopted a person-centered approach, where the assessment of cognitive and functional impairment, along with negative symptomatology, is recognized as a key element to promote recovery and improve quality of life (Anda et al., 2019; Gebreegziabhere et al., 2022; McCutcheon et al., 2023; López-Navarro & Al-Halabí, 2022a, 2022b). This has prompted the development of more integrative therapeutic models, designed to fit individual needs and promote autonomy and functionality rather than focusing solely on symptom reduction (McGlanaghy et al., 2021; Morris et al., 2024; Pérez-Álvarez & García-Montes, 2022, 2023).

Nonetheless, there continue to be limitations in the conceptualization and management of psychosis. The preponderance of exclusively biomedical or psychological models has resulted in fragmented treatments, which do not always consider the diversity of experiences of those experiencing psychotic episodes. This highlights the need for more integrative and adaptive approaches, which adapt the therapeutic strategies to the particularities of each individual, respecting their autonomy and decision-making capacity.

Theoretical Foundations of ART

Acceptance and recovery therapy for psychosis (ART) falls within these integrative approaches, combining principles of acceptance and commitment therapy (ACT) with specific adaptations for psychosis. Its approach promotes psychological flexibility, understood as the person's ability to remain in contact with the present moment, to accept their internal experiences without avoiding them, and to act according to their values, even in the presence of distress (Hayes et al., 2011). ART adapts the intervention to the level of cognitive and functional impairment of each person, with strategies adapted to their individual values and goals (Díaz-Garrido et al., 2021a, 2021b).

ART incorporates neuropsychological assessment as a key tool to adjust interventions to individual cognitive abilities. This approach facilitates adaptive and progressive learning processes, without focusing exclusively on the etiology of the disorder (Green et al., 2020; Kahn & Keefe, 2013; Vita et al., 2024). In addition, ART emphasizes an active recovery, where the person has a central role in the management of his or her treatment, promoting informed decision making regarding psychological, pharmacological, or combined therapeutic options. Recent evidence indicates that, in certain cases, minimal or no use of antipsychotic medication may be associated with better long-term functional outcomes, reinforcing the importance of a personalized approach (Cooper et al., 2020; Francey et al., 2020; Morrison et al., 2018).

ART extends its impact beyond individual interventions by implementing an integrated care model grounded in the concept of an expanded therapeutic team. It promotes collaboration among psychologists, psychiatrists, nursing staff, and social workers, while

also involving other key contributors to recovery, such as individuals with lived experience of psychosis who have achieved greater functionality, as well as healthcare, security, cleaning, and administrative personnel (Díaz-Garrido et al., 2021b; Laffite et al., 2021).

This approach recognizes the role of all the figures that make up the socio-therapeutic context, from mental health professionals to other people in recovery who may serve as coping models. Thus, ART is presented as an integrative model that combines recent research with flexible clinical application, tailored to the individual needs of those experiencing psychosis.

Thus, ART is positioned as a structured therapeutic model that integrates empirically supported psychotherapeutic tools within a flexible intervention framework, adapted to the individual needs and capacities of people with psychosis.

ART Clinical Strategies

ART is based on four clinical strategies that operationalize its therapeutic application within the ACT framework: contextual dialogism, Zone of Proximal Development (ZPD), More Knowledgeable Other (MKO), and expanded therapeutic team. These strategies allow the intervention to be tailored to each individual's needs, supporting functional recovery aligned with their values and abilities.

Additionally, the strategies address the need to adapt treatment to each person's social context and support dynamics. Not only does ART integrate tools from ACT and other therapeutic approaches, but it also develops specific clinical processes designed to optimize support and integration in various recovery settings.

Contextual Dialogism

Contextual dialogism is a therapeutic strategy aimed at creating a space for open and collaborative conversation, fostering the shared construction of meaning among the person with psychosis, their support network, and mental health professionals. Inspired by the principles of Open Dialogue (Seikkula et al., 2001; Seikkula & Arnkil, 2016, 2019), this approach encourages psychological flexibility by allowing multiple voices to be heard and validated, reducing cognitive and emotional rigidity.

The purpose of contextual dialogism is to facilitate the understanding and validation of the psychotic experiences, reducing isolation and promoting a collective understanding. Through dialogue, a more flexible perspective on reality is fostered, allowing experiences to be reframed and narratives to be generated that support recovery. Several studies have supported its effectiveness in reducing cognitive rigidity and the construction of shared meanings (Bergström et al., 2018; González-García et al., 2023).

Principles of Open Dialogue and Their Application in ART

Contextual dialogism in ART takes as a reference the principles of Open Dialogue, promoting the participation of the person with psychosis and, whenever possible, their support network, including family, friends, and other significant individuals. Through the co-construction of shared meanings, it seeks to integrate multiple perspectives into a more cohesive and functional narrative.

The process follows the fundamental principles of Open Dialogue, such as transparency and horizontal communication. No decisions are made, nor are conversations held about the individual without their presence or consent, ensuring that all exchanges occur within a framework of trust and active participation. The process encourages the construction of a new, shared narrative that incorporates all perspectives without imposing a single interpretation of events.

To facilitate this process, a variety of narrative techniques are employed, including:

- **Externalization:** Differentiating the person's identity from their psychotic experience, promoting a less invasive relationship with their symptomatology.
- **Reflection aloud by the therapeutic team:** Allows all perspectives to be explored without imposing directives.
- **Joint reformulation of the psychotic experience:** The person and their support network construct alternative narratives that reduce the sense of chaos or fatality.
- **Use of open and circular questions:** Expanding the understanding of the events experienced and facilitating the integration of new meanings.

Key Differences With Open Dialogue

While contextual dialogism shares principles with Open Dialogue, ART introduces key differences, aligned with its clinical framework based on ACT and functional contextualism:

- **Therapeutic structure.** While Open Dialogue encourages conversations without a predefined direction, in ART contextual dialogism takes place within a structured framework, designed to encourage flexibility and facilitate processes of cognitive defusion, understood as the ability to distance oneself from thoughts without merging with their literal content.
- **Orientation to personal values.** Beyond generating new shared explanations, the aim is for the person to link their response to what they consider significant in their life, promoting a meaningful recovery.
- **Complementarity with therapeutic strategies.** ART incorporates tools such as deliteralization, emotion regulation, and acceptance of psychotic experiences, whereas in Open Dialogue interventions may be less structured.
- **Relationship with the psychotic experience.** In ART, contextual dialogism helps the person gain distance from their experiences without invalidating them, promoting the integration of new perspectives and facilitating a less threatening relationship with their subjective experience.

To illustrate the application of contextual dialogism, let us consider the following case:

Sofia, 25 years old, has begun to experience critical voices that have led her to isolate herself from her environment. In a contextual dialogism session, her mother and her partner are invited to participate. During the conversation, the mother expresses her fear that the voices signify irreversible deterioration, while her partner acknowledges that they have avoided talking about it for fear of

making it worse. Through open-ended questions, exploration of these concerns is facilitated and a broader view is promoted: Sofia shares that the voices increase when she feels isolated and that, although they frighten her, she has also found them to be more manageable when she has support.

In this case, the dialogue facilitated in ART not only allowed the experience to be reframed from a shared perspective, but—unlike in Open Dialogue—principles of psychological flexibility and alignment with personal values were incorporated, helping Sofia to identify strategies that allow her to deal with her experiences without focusing exclusively on their content.

Application of Contextual Dialogism in ART

Following the "immediate help" principle of Open Dialogue (Seikkula et al., 2001), in ART contextual dialogism sessions are initiated as early as possible to provide a safe communication space from the first stages of the intervention. These sessions last approximately 90 minutes, with a recommended frequency of twice a week, adapted to the availability of the support network and the individual needs of the person.

The role of the therapist in this approach is non-hierarchical, functioning as a facilitator of dialogue rather than imposing interpretations or guidelines. This attitude of openness allows the person to explore his or her internal discourse with less rigidity, favoring cognitive distancing and the generation of new meanings.

Contextual dialogism in ART contributes to the expansion of the ZPD by providing an environment in which the individual can progress with structured support. As thinking becomes more flexible and new perspectives are validated, the individual develops greater capacity to cope with psychotic experiences and respond adaptively to their environment.

Zone of Proximal Development in ART

The ZPD, a concept formulated by Vygotsky (1978), refers to the distance between what a person can do independently and what they can achieve with external support. This approach is based on the idea that learning and development occur optimally when the person receives adequate guidance to progress beyond their current level of competence.

In ART, the ZPD functions as a framework for structuring the intervention, adapting the therapeutic challenges to the current capabilities and resources of each individual. Unlike approaches that assume immediate or uniform change, the ZPD in ART encompasses not only cognitive development, but also experiential and functional dimensions, supporting autonomy in recovery. It is activated through interaction with an MKO, who may be a therapist, a member of the support network, or even another person in recovery with higher functioning. This approach facilitates progressive learning, allowing the person to expand their coping strategies and overcome new challenges within a structured supportive environment.

Chadwick's (2006) model has been fundamental in the application of ZPD in psychosis, highlighting the importance of metacognition to improve self-reflection and emotion regulation. His approach has allowed the development of interventions that promote greater awareness of one's own cognitive and emotional

processes, thus facilitating better management of psychotic symptomatology.

ART integrates these advances by applying the ZPD in real learning contexts. Instead of focusing solely on metacognition, ART uses the ZPD as a tool for the progressive acquisition of functional competencies, promoting autonomy through guided experiences tailored to each individual (López-Navarro et al., 2022).

To illustrate the application of the ZPD in ART, consider the following case: Laura, age 35, has stopped going outside alone for fear of experiencing anxiety and hallucinations in uncontrolled environments. She expresses that she would like to regain independence, but the thought of going out without support creates great discomfort for her.

ZPD-based intervention:

1. Current level of competence: Laura does not feel able to go out on her own, but is willing to try if she has structured support.
2. Adapting the level of support: The therapist designs a progressive plan in which Laura first practices in a safe environment, walking in the company of a family member or therapist in quiet spaces.
3. Gradual reduction of support: As Laura gains confidence, she begins to make short journeys unaccompanied, using strategies previously rehearsed in therapy (e.g., attentional focus, emotion regulation, and advance planning of safe routes).
4. Autonomy: Over time, Laura regains the confidence to go out on her own, using the acquired strategies without needing external support.

More Knowledgeable Other

The concept of MKO, formulated by Vygotsky (1978), refers to the individual who facilitates learning by providing structured support to those developing new skills. In ART, this idea is expanded to include not only therapists or members of the support network, but also higher functioning peers and non-clinical personnel who participate in the therapeutic environment, such as security, cleaning, or administrative workers.

What is essential is not the professional role of the MKO but their ability to serve as an accessible and credible role model, promoting learning through modeling and shaping. For this process to be effective, certain key characteristics must be met:

- Perceived similarity: The person identifies with the other and sees their achievements as attainable.
- Affective value: A relationship of trust and respect is established.
- Prestige and effectiveness: The strategies applied have been effective in other cases.

In addition to the impact on the person in recovery, ART emphasizes the training and support of those who exercise this role. To this end, the model incorporates continuous training spaces aimed at strengthening emotion management, acceptance, and values-based action within the broader therapeutic team. This process not only improves the coherence and consistency of the intervention but also

contributes to the well-being of those involved in the recovery process (Díaz-Garrido et al., 2021b; Laffite et al., 2021).

By conceiving recovery as a social and shared process, ART makes the MKO central to the individual's functional evolution. Through guided and progressive learning in a safe environment, this approach facilitates the development of new skills and expands the possibilities for action and autonomy in daily life.

Example of MKO application:

Javier, 27, has experienced several hospitalizations due to psychotic episodes and has difficulty maintaining social interactions outside the clinical setting. He expresses a desire to regain the confidence to attend family gatherings without feeling overwhelmed.

Intervention with the Most Knowledgeable Other:

1. Selection of an attainable model: In Javier's therapeutic group, Carla is identified—she has also had psychotic experiences and has worked on regaining her social skills. Her story is similar to Javier's and represents an attainable model.
2. Guided learning process: Carla and Javier participate in group sessions where they practice social situations in a safe environment, with the therapist supervising the interaction.
3. Real-life progressive experience: Carla accompanies Javier in a social activity in the community, providing support in moments of anxiety and reminding him of strategies she herself has used.
4. Autonomy and transfer of skills: Over time, Javier begins to attend family gatherings on his own, applying what he has learned in the process.

Levels of Cognitive and Functional Impairment in People With Psychosis

The need to adapt interventions to improve comprehension, learning, and memory in people with psychosis has been widely recognized in the literature (Chadwick, 2006; Morris, 2019; Pankey & Hayes, 2003). ART proposes a personalized approach, based on a systematic assessment of cognitive and functional impairment, allowing specific strategies to be designed to optimize therapeutic effectiveness.

Classifying levels of cognitive and functional impairment allows interventions to be tailored to individual needs, increasing their effectiveness. This approach aligns with models that combine ACT with cognitive rehabilitation techniques, promoting psychological flexibility and well-being in people with acquired brain injury (Sathananthan et al., 2022).

Cognitive impairment in psychosis varies according to individual and contextual factors (McCutcheon et al., 2023), so its assessment should be dynamic and revisable. Although comprehensive neuropsychological assessments would be ideal, technical and resource limitations often require the use of accessible tools to build a useful clinical profile to guide therapeutic adaptations. For more on recommended neuropsychological tools, see Laffite et al. (2022, 2023).

Based on the results of the neuropsychological assessment, ART establishes a level of cognitive and functional impairment, defined on the basis of key areas such as attention, memory, executive functions, processing speed, and overall functionality:

No Cognitive Impairment or Subclinical (<1 SD)

The person maintains cognitive functioning within the expected range, with skills of abstraction and symbolic thinking that allow them to benefit from standard interventions. When scores in attention, memory, executive functions, and processing speed do not exceed 1 standard deviation (SD) below average, no significant adaptations are required. Interventions follow the classic ACT model, incorporating the specificities of ART, according to individual progress.

Example: Ana, age 26, has experienced psychotic episodes, but her cognitive performance is within normal parameters. She can understand complex metaphors in therapy, reflect on her experience, and apply coping strategies autonomously. Her treatment focuses on psychological flexibility without requiring additional adaptations.

Mild Cognitive Impairment (1-2 SD)

Difficulties are observed in attention, memory, processing speed, executive functions, social perception, emotional processing, and metacognition. At this level, minimal adaptations are implemented, such as simplifying metaphors, increasing repetition, verifying comprehension, and reducing the symbolic load in interventions.

Example: Jose, age 34, has difficulty sustaining attention in prolonged sessions and takes longer to process information. Although he understands the therapeutic strategies, he needs key concepts to be repeated and metaphors to be more concrete. To facilitate his learning, visual examples are used and information is reinforced through summaries and outlines.

Moderate Cognitive Impairment (>2 SD)

Significant deficits are present in the ability to maintain attention, remember information, understand language, and perform symbolization and abstraction processes. Interventions are adapted by reducing the complexity of the tasks, using simpler language, concrete metaphors with guided meanings, and visual support with images or objects. In addition, behavioral strategies are prioritized to promote autonomy, along with a higher frequency of sessions focused on functional recovery.

Example: Elena, 40 years old, has difficulty remembering what was covered in previous sessions and needs clear and structured instructions. She finds it difficult to understand abstract concepts, so physical and visual objects are used in therapy. Her sessions are shorter and are reinforced with repetitive practical exercises to help consolidate the information.

Severe and Highly Limiting Cognitive Impairment (>3 SD)

Severe cognitive limitations are identified that affect daily functioning. Interventions focus on rehabilitation and reinforcement of basic and instrumental daily living skills. In this context, ART principles are applied through modeling and shaping of functional behaviors, adapted to the specific abilities of each individual.

Example: Manuel, age 55, has difficulty remembering recent events, maintaining a structured conversation, and processing new information. In his treatment, instructions must be direct and concrete, with visual aids and frequent repetition. Structured

routines and training in basic skills are used, such as remembering his daily schedule or practicing functional responses in social interactions, with the support of the therapeutic team and his support network.

These strategies ensure that ART interventions are both relevant and effective, optimizing the functionality and quality of life of people with psychosis. Below, [Table 1](#) summarizes the specific adaptations proposed by ART according to the level of cognitive and functional impairment, facilitating their practical application.

Table 1

ART Adaptations According to Level of Impairment and Neuropsychological Functions Assessed (Adapted From Laffitte et al., 2023)

Neuropsychological function	Mild impairment	Moderate impairment
Attention	Slightly shorter sessions with reduced content. Use of guiding metaphors to redirect attention.	Shorter sessions with limited content. Use of guiding metaphors to redirect attention.
Memory	Maximum of two ACT components per session (acceptance, defusion, goals, action). Plus repetition and visual or written support.	Individual interventions with more repetition. Use of graphic or written materials adapted to strengths and deficits.
Executive functions	Structure of the session at the beginning. Use of diagrams and reminders of previous and current content.	Structured information at the beginning and in writing. Diagrams and frequent reminders of the content of the sessions.
Processing speed	Adapted pace of language with more marked pauses to facilitate comprehension.	Adapted pace of language with more marked pauses to facilitate comprehension.
Metacognition and social cognition	Recognition and discrimination of emotions. Clear and simple language with outstanding communicative elements.	Recognition and discrimination of emotions. Clear and simple language with outstanding communicative elements.
Abstraction	Reduction of the symbolic or metaphorical content in language.	Complete elimination of the symbolic or metaphorical content in language.

[Table 2](#) presents ART's therapeutic strategies, organized by levels of intervention. These strategies allow for a flexible and personalized approach, aligned with the values of each individual. In addition, the table serves as a practical guide for adapting interventions according to cognitive and functional impairment, as well as the individual characteristics of each case.

Therapeutic Processes Based on ACT

ART integrates the six main processes of ACT ([Hayes et al., 2011](#)), especially within the therapeutic intervention phase:

- 1. Generating creative hopelessness:** Helping the person to recognize the ineffectiveness of previous distress-control strategies, promoting openness to new ways of coping.
- 2. Control as the problem, not the solution:** Exploring how struggling with psychotic symptomatology can intensify suffering, encouraging a more flexible relationship with internal experiences.

Table 2*Adaptation of Techniques and Therapeutic Aspects According to Intervention Levels (Adapted From Zúñiga et al., 2023)*

Category	Acute	Stable without deterioration	Stable, slight deterioration	Stable, moderate deterioration	Stable, severe impairment
Type of language used	Clear and precise language to avoid misinterpretation. No prolonged silences, use of paraphrases.	Usual language, paying attention to interpretative aspects.	Limited use of symbolism. Speak slowly to facilitate understanding.	Simple and repetitive language. Exercises guided by the therapist.	Simple and direct language. Conversation completely guided by the therapist.
Functional recovery	Focused on personal values.	Focused on personal values.	Simple value-based actions, such as establishing daily routines.	Behavioral activation linked to values and instrumental activities of daily life.	Very simple actions linked to values and basic activities of daily life.
Mindfulness	Short sessions with emphasis on anchors and verbal guidance.	Gradually progress towards autonomy in simple practices.	Prioritize informal and simple practices, with a greater number of guided practice sessions.	Short, physically centered practices, always guided.	Guided practices only; alternatives such as yoga or tai chi.
Spiral process	Abbreviated, focused on reducing discomfort.	Full spiral, the whole process is feasible.	Slow progression, prioritizing functional exposures.	Partial use of the spiral, without completing it.	The spiral does not apply.
Metaphors	Metaphors related to general discomfort. Constant guidance to clarify meanings.	Specific metaphors for current problems.	Limited use of metaphors, reinforced with physical elements.	Prioritize simple metaphors and physical exercises, avoiding symbolism.	Restricted use of metaphors; assess individual ability to apply them.
Contextual dialogism	Introduce as soon as possible.	Viable.	Viable.	Use of classic family therapy.	Use of classic family therapy.

Note: Acute: Critical period with predominance of positive symptoms and disorganization; Stable without deterioration: Remission phase without significant cognitive impairment; Stable with mild/moderate/severe deterioration: Progression in functional and cognitive impact.

- 3. Language deliteralization:** Facilitating distancing from psychotic thoughts without trying to eliminate them, promoting less cognitive fusion with the hallucinatory or delusional content.
- 4. Self as context:** Developing a more flexible and less fused identity with psychotic symptoms and the associated stigma, supporting a broader self-perspective and reducing rigidity in self-perception.
- 5. Values clarification:** Identifying what gives meaning to life beyond symptoms, providing direction for recovery.
- 6. Acceptance and commitment:** Integrating coping strategies based on committed action, promoting behaviors aligned with personal values even in the presence of difficult internal experiences.

These processes are applied transversally throughout the different phases of psychosis, integrating dialogic principles in the work with families, groups, and therapeutic teams. In addition, ART adapts its interventions according to the level of cognitive and functional impairment, ensuring that strategies are accessible and applicable for each person.

Intervention in ART

The ART intervention is organized around a progressive and adaptive scheme, adjusting therapeutic strategies according to the individual's progress and context. Its application is flexible, allowing its implementation in community facilities, short- and long-stay hospital units, as well as in outpatient sessions, within both public and private services.

To promote treatment adherence and understanding of therapeutic goals, sessions follow a clear and predictable organization. A structured framework facilitates active participation

in the recovery process, ensuring that therapeutic strategies are accessible and understandable (Morris, 2019).

Phases of ART intervention

ART structures its intervention in three main phases, which allow for a therapeutic progression adapted to the level of functional and cognitive impairment:

Evaluation and Orientation Phase

A detailed assessment of cognitive and functional impairment is carried out, establishing therapeutic objectives according to the person's values and determining the most appropriate strategies.

Therapeutic Intervention Phase

Multidimensional strategies are implemented, integrating ACT, contextual dialogism, ZPD, and other evidence-based therapeutic strategies. The intervention is adapted according to clinical progress and individual needs.

Sessions can be conducted in individual, group, or family format, depending on the therapeutic objectives and the context of application. Group sessions follow a structured approach based on ACT phases (O'Donoghue et al., 2018), allowing for the progressive integration of therapeutic processes in a format adapted to the needs of the participants. This format facilitates experiential learning, peer interaction, and the consolidation of therapeutic skills in a safe environment.

Consolidation and Maintenance Phase

Achievements are reinforced, fostering autonomy and long-term functional recovery. At this stage, the intervention focuses on

committed action, promoting behaviors aligned with the individual's personal values.

Therapeutic Objectives in ART

The objectives of ART correspond to those described by [Wilson and Luciano \(2002\)](#), with an approach adapted to functional recovery in psychosis:

1. **Values clarification:** Identifying what really matters to the person, beyond the diagnosis.
2. **Acceptance of private events linked to what cannot be changed:** Reducing the struggle with persistent symptoms and encouraging psychological flexibility.
3. **Strengthening of the self as a context:** Developing an identity that is less fused with psychotic symptoms, allowing for greater flexibility in self-perception.

ART emphasizes that recovery does not mean "curing" the person, but rather expanding their possibilities for action in the present. The intervention is oriented toward building a meaningful life, using acceptance as a central tool rather than fixating exclusively on goals that depend on changes in symptomatology ([Morris, 2019](#)).

Therapeutic Strategies According to the Clinical Stage

ART adapts its therapeutic strategies based on the clinical stage, guaranteeing a tailored intervention at each stage of the therapeutic process.

Preventive and Early Intervention

In the initial phases, ART prioritizes the promotion of psychological flexibility and the prevention of chronic distress. The use of rigid diagnostic labels is avoided, and work focuses on identifying patterns of experiential avoidance, facilitating strategies that expand the behavioral repertoire and reduce vulnerability before limiting functioning dynamics become established.

Stigma—whether social, self-inflicted, or iatrogenic—represents a significant obstacle to recovery ([Díaz-Garrido et al., 2021b](#); [Laffite et al., 2023](#)). In particular, iatrogenic stigma, generated by overprotective attitudes in the healthcare system, can reinforce expectations of incapacity, leading to restrictive diagnoses, premature hospitalizations, and the inadvertent promotion of disability. This limiting approach not only restricts the autonomy of the person but also reduces their capacity for self-determination and development. Furthermore, attributing mental health problems exclusively to biological causes has been associated with greater professional stigma and poorer therapeutic outcomes, especially when there is a discrepancy between the “patient’s” perspective and that of the healthcare team ([Rosenthal Oren et al., 2021](#); [Valery & Proteau, 2020](#)).

To counteract these effects, ART promotes a therapeutic vision that challenges clinical pessimism and rigid narratives about psychosis. The need is emphasized to form therapeutic teams capable of questioning limiting beliefs, broadening the understanding of the recovery process, and fostering dialogues

aligned with the Personal Recovery movement. This involves a paradigm shift: replacing the presumption of incapacity with a perspective that prioritizes values, individual abilities, and the construction of a meaningful life.

Main strategies in this phase:

- Identifying and working on patterns of avoidance and cognitive rigidity, analyzing how these dynamics limit recovery, and promoting more adaptive alternatives.
- Development of psychological flexibility through metaphors and experiential exercises, using symbolic comparisons and experiential activities to help the person generate new perspectives and ways of coping with their experience.
- Introduction of emotion regulation strategies and adapted mindfulness, providing tools that help the person to observe and manage their emotions without reacting impulsively to them.
- Working with the support network to foster a context that facilitates recovery, promoting family and community dynamics that reinforce autonomy and reduce invalidation.

Outpatient Treatment and Follow-Up in the Public/Private System

In this phase, ART focuses on the consolidation of therapeutic strategies for functional recovery, ensuring the maintenance of the achievements reached and the continuity of the committed direction towards personal values. Intervention is not only aimed at relapse prevention but also at the integration of coping strategies into daily life, promoting active participation in areas that are meaningful to the individual.

Main strategies in this phase:

- Strengthening of committed action and values-driven work to promote social and professional reintegration.
- Application of cognitive defusion techniques to reduce fusion with psychotic thoughts.
- Use of adapted mindfulness to improve emotion regulation and foster greater acceptance of the inner experience.
- Group follow-up spaces to reinforce adherence to coping strategies and sustain active involvement in recovery.

Intervention in Psychosocial Rehabilitation for Medium- and Long-Term Inpatient Settings

For people with greater functional impairment, ART adapts its intervention to a psychosocial rehabilitation context, prioritizing autonomy and training in basic and instrumental skills.

Key strategies in this phase:

- Interventions focused on reinforcement of functional skills, using consequence-based learning strategies to promote adaptive behaviors.
- Modeling and shaping of functional skills, allowing the person to learn through observation and imitation of adaptive behaviors in everyday environments.
- Implementation of structured routines to facilitate independence, ensuring the repetition of essential activities

and promoting the consolidation of functional habits in daily life.

- Training and support of the extended therapeutic team, enabling professionals and caregivers to provide coherent and effective support within psychosocial rehabilitation contexts.
- Cognitive rehabilitation, focused on improving functions such as memory, attention, and executive skills through adapted structured exercises.

Approach During Acute Symptomatology

During episodes of decompensation, ART adapts its interventions to reduce the functional impact of symptoms and stabilize symptomatology without resorting exclusively to distress-control strategies. Individual, group, and family techniques are implemented focusing on acceptance and reduction of the struggle with psychotic symptoms.

Key strategies in this phase:

- Adapted mindfulness techniques and emotion regulation in crisis. Mindfulness exercises designed for psychosis are used, helping the person to observe their experiences without reacting automatically, thus reducing anxiety and emotional reactivity.
- Brief interventions based on the deliteralization of language. Strategies are applied to help individuals distance themselves from intrusive thoughts or hallucinations, avoiding a rigid fusion with their content without invalidating the experience.
- Restructuring the meaning of the psychotic experience through contextual dialogism. Through collaborative exploration, a more flexible and less threatening understanding of the psychotic experiences is fostered, promoting the co-construction of meaning with the support network.
- Working with the family and support network to reduce invalidation and the impact of the crisis on the environment. Psychoeducation and communication strategies are provided to enhance social support and minimize responses that reinforce isolation or struggling with symptoms.

Specific Strategies for the Management of Psychotic Experiences

ART approaches psychotic experiences from an approach focused on functional recovery, avoiding control strategies that reinforce the internal struggle. To this end, specific techniques have been adapted and developed that allow the person to modify their relationship with these experiences without invalidating or amplifying them (Díaz-Garrido et al., 2021b; Laffite et al., 2022, 2023).

Intervention on Hallucinations: Contextual Focus on Voices

Contextual focus on voices is a therapeutic strategy used in ART to address auditory hallucinations without resorting to control or reinterpretation strategies. Although it shares principles with previous approaches, such as therapy focusing on voices (Bentall et al., 1994), its approach has key differences.

This original approach proposed the reduction of hallucinatory distress through reattribution and cognitive reinterpretation, with

the aim that the individual would stop perceiving the voices as external messages and begin to consider them as their own production.

Although ART also seeks to reduce the emotional impact of hallucinations, its approach is not based on modifying the attribution of their origin or their content. Instead, it focuses on transforming the relationship individuals develop with their hallucinations. Rather than aiming for their elimination or engaging in cognitive restructuring, ART encourages an interaction that lessens the internal struggle, reduces the discomfort, and supports a life aligned with personal values.

To this end, mindfulness techniques adapted for psychosis (Chadwick, 2014, 2019; Laffite et al., 2024) are combined with strategies of deliteralization and cognitive defusion, promoting a greater distance from the verbal content of the voices without invalidating the experience. These techniques help reduce fusion with auditory messages and diminish their emotional impact, fostering a more flexible and less invasive relationship with the hallucinations.

The procedure of focusing on the voices within ART is developed through three phases:

1. **Attention to the physical characteristics of the voices.** This begins with a sensory approach, in which the person observes and describes the acoustic qualities of their auditory hallucinations without interpreting or reacting to their content. This allows for greater awareness of the phenomenon and reduces emotional reactivity.
2. **Work with the verbal content of the voices.** Through strategies of deliteralization, cognitive defusion, and experiential exercises, the aim is to modify the relationship with the message of the voices, encouraging greater psychological distance without invalidating the experience. Exercises such as "taking the voices for a walk" can be used, where the person can listen to recordings of their voices in different contexts to encourage gradual and functional exposure. Other strategies include modifying the pitch and pace of the voices, or thought labeling, all designed to reduce the fusion with their verbal content and generate greater psychological flexibility.
3. **Acceptance of discomfort and values orientation.** In this phase, the individual is trained to maintain their committed direction despite the presence of the voices. Metaphors such as the "bus" or the "swamp" (Wilson & Luciano, 2002) are used to illustrate how it is possible to move toward a values-led life without completely eliminating the auditory hallucinations.

To illustrate the application of this technique in clinical practice, consider the following case:

Marcos, 29, has experienced auditory hallucinations since adolescence. The voices are often critical and dismissive, causing him anxiety and isolation. So far, he has tried to ignore them or argue with them, which increases his frustration. In therapy, he expresses that he wants to learn to relate to his voices so that they do not interfere with his daily life.

Intervention based on Contextual Focus on Voices:

1. Attention to the physical characteristics of the voices. In the first sessions, Marcos is guided to observe his voices without interpreting them. He is asked to describe their pitch, volume, pace, and distance, without focusing on their content. He discovers that some voices sound louder in times of stress and that their volume decreases when he is focused on an activity. This exercise reduces their emotional impact and automatic reaction to them.
2. Working with the verbal content of the voices. Marcos learns strategies of deliteralization and cognitive defusion. The "taking the voices for a walk" exercise is used, in which he records phrases similar to those he hears and then plays them back at different times of the day. He notices that although the content of the voices remains the same, their impact varies depending on the context and his emotional state. This helps him create psychological distance and perceive the voices as less threatening.
3. Acceptance of discomfort and values orientation. Over time, Marcos works on adjusting his relationship with the voices to his personal values. The metaphor of the "bus" is used, where he imagines that his voices are noisy passengers, but he continues to drive toward his goals. He accepts that the voices may be present without preventing him from moving forward in his life. As part of his plan of action, he begins to resume social activities that he had previously avoided, focusing on what he considers important beyond his hallucinations.

ART not only addresses auditory hallucinations but also considers other sensory modalities, such as kinesthetic (altered perceptions of one's own body) and multimodal hallucinations linked to traumatic experiences. Given that these experiences may involve multiple senses simultaneously, an effective therapeutic strategy is the integration of adapted mindfulness practices (Laffite et al., 2024).

Intervention on Delusions. Spiral Process

ART approaches delusions from an experiential approach, using the metaphor of "Spiral Process" to modify the person's relationship with their beliefs without resorting to direct confrontation. Rather than debating or invalidating the content of the delusion, priority is given to exploring its functionality and its impact on the person's life.

The Spiral Process is a key ART strategy designed to reduce fusion with delusional beliefs and foster learning based on direct experiences (Díaz-Garrido et al., 2021b; Laffite et al., 2022, 2023). Its purpose is not to change the content of the delusion but to help the individual develop a more flexible relationship with their experience, promoting acceptance, mindfulness, and connection with their personal values.

This process is based on the construction of an empathic and respectful therapeutic alliance, adopting a neutral stance towards the delusional narratives. Instead of focusing on modifying these beliefs, the aim is for the person to live a meaningful life, guided by their values, even in the presence of the delusion.

ART and the function of delusions. From a phenomenological and contextual perspective, some authors have proposed that

delusions are not mere distortions of reality, but attempts to make sense of unusual or disturbing experiences (Deamer & Wilkinson, 2021; García-Montes et al., 2013, 2021). In this approach, delusions form part of a personal narrative that helps the person to structure and give meaning to experiences that may be destabilizing.

In addition, it has been proposed that delusions may act as experiential avoidance strategies, allowing the person to avoid painful emotions, thoughts, or memories (García-Montes et al., 2013, 2021). In this sense, delusional content could serve as an alternative explanation that diverts attention from disturbing internal aspects, functioning as a psychological regulation mechanism.

ART aligns with this perspective, recognizing that delusions not only serve a regulatory function in behavior but also reflect active attempts to cope with challenging private events. Rather than attempting to modify their content, ART facilitates the exploration of their meaning and their role in the person's history, promoting more flexible ways of relating to these beliefs.

From this standpoint, ART seeks to reduce the experiential avoidance associated with delusions by encouraging acceptance of internal experiences and promoting a more open relationship with them. By decreasing the need to suppress or avoid these experiences, individuals are better able to engage in actions aligned with their personal values, even in the presence of difficult thoughts or emotions.

The Spiral Process integrates different therapeutic strategies, including:

- **Fostering of the therapeutic alliance** and a non-punitive audience. Priority is given to building a bond based on trust and validation, avoiding directive or confrontational approaches. The aim is to provide a safe space where the person can express their experiences without fear of being judged or punished, facilitating openness to the therapeutic process.
- **Functional analysis of delusions** to understand their function in the person's life. The antecedents and consequences of delusions are explored to identify their function in behavioral regulation. Rather than considering delusions as cognitive distortions, the analysis focuses on how they operate within the individual's behavioral repertoire, the reinforcers that maintain their use, and how they facilitate the avoidance of aversive private events or the functional reorganization of experience.
- **Controlled exposure** to triggers using "functionality traps", promoting a less rigid relationship with the delusional belief. Exercises are designed in which individuals can observe their responses to specific situations that activate their delusion, assessing whether the delusion helps or limits them in pursuing their values. This allows for the development of functional doubts about the need to cling to the belief.
- Use of **experiential tools**, such as metaphors and mindfulness, to generate new perspectives. Through mindfulness exercises and therapeutic metaphors, individuals are encouraged to distance themselves from their delusional narrative without directly confronting it. Strategies such as the "passenger on the bus" metaphor or adapted mindfulness are used to allow the observation of thoughts without rigid adherence to their content.

Each of these strategies encourages a narrative that is less fused with the delusional content, promoting engaged action and guiding the person toward a valuable and functional life.

Stages of the Spiral Process. The stages of the Spiral Process are depicted in Figure 1, where each phase reflects a progressive step within a dynamic and adaptive framework. From functional analysis to values-based commitment, these stages support gradual movement from the periphery of the delusion toward a more integrated narrative aligned with personal values.

This approach not only recognizes the uniqueness of each individual but also facilitates the development of adaptive strategies to cope with the challenges associated with psychosis, promoting functional recovery without the need to completely eliminate the delusional experience. To illustrate the application of the Spiral Process in ART, the following case is presented:

Luis believes that his coworkers are conspiring against him to sabotage his performance. Because of this, he avoids meetings, minimizes his interactions, and has turned down promotion opportunities for fear of being exposed.

Phase 1: Establishment of the Alliance and Functional Analysis

In the first sessions, the therapist avoids directly confronting the certainty of the delusion. The focus is on how this belief affects Luis's life and what emotions he attempts to manage through his isolation. The antecedents of the delusion are explored, identifying that it arose after an experience of exclusion in a previous job. His experience is validated without reinforcing it, using therapeutic mirroring to create space for exploration. The distinction between the perception of threat and its impact on his

daily life is also introduced, avoiding questioning the veracity of the delusion.

Phase 2: Functional Self-Exposure and Functionality Testing

Luis begins to engage in small interactions at work without automatically avoiding his coworkers.

1. Behavioral experiments are designed, such as writing predictions about what he believes will happen in a meeting and comparing them with the reality afterward.
2. Deliteralization exercises are used, helping him notice how the context influences the interpretation of his experiences.
3. The metaphor of the "observer at the window" is introduced, promoting psychological flexibility in the interpretation of his thoughts.

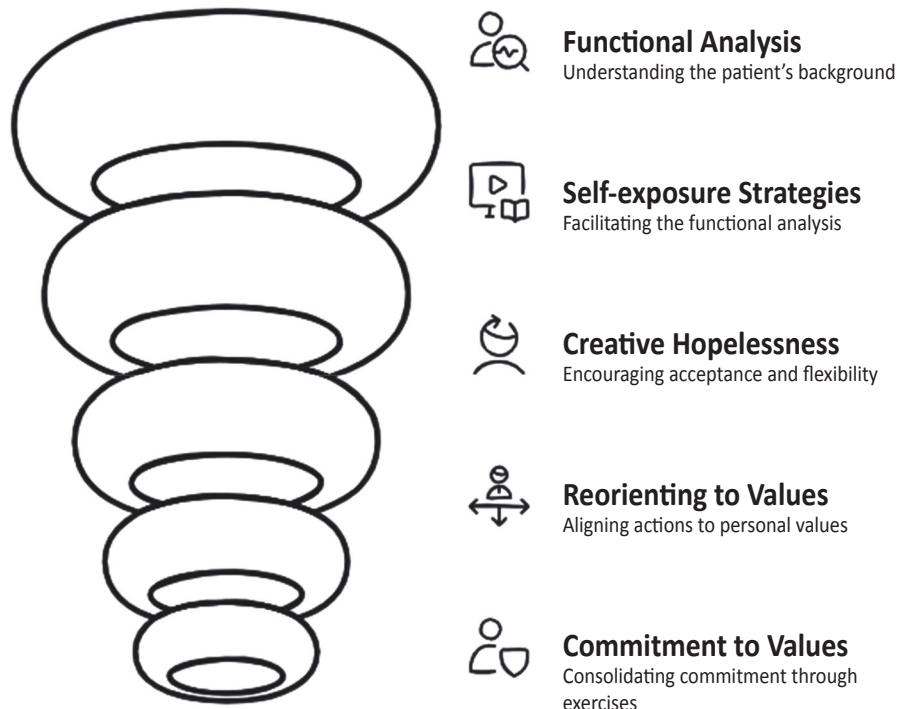
Phase 3: Creative Hopelessness and Emotion Regulation

Luis begins to notice that his attempts to avoid his coworkers have not reduced his discomfort but have instead reinforced his isolation and anxiety at work.

1. The ineffectiveness of his previous control strategies is explored, assessing whether they have improved or worsened his well-being.
2. The metaphor of the swamp is used, illustrating how the struggle against his thoughts has led him to feel more trapped.
3. Adapted mindfulness is introduced, allowing him to observe his thoughts without reacting impulsively to them.

Figure 1

Graphical Representation of the Stages of the Spiral Process



Note. The spiral illustrates the gradual progression through the stages of the Spiral Process: functional analysis, functional self-exposure, creative hopelessness, reorienting towards values, and commitment to personal values. Author's own work.

Phase 4: Redirection Towards Committed Values and Actions

Luis recognizes that beyond his fear, he values job stability and professional development.

1. He works on connecting his actions with these values, promoting small behavioral changes.
2. The metaphor of the "bus" is used, where he learns that he can keep driving his life forward despite his anxious thoughts.
3. He engages in actions such as attending meetings without avoiding eye contact and soliciting feedback on his performance.

Discussion

ART falls within contemporary approaches that seek to address psychosis from a contextual, flexible, and functional recovery-oriented perspective. Based on Acceptance and Commitment Therapy (ACT), it not only integrates strategies from previous models but also develops and adapts interventions to suit different levels of cognitive and functional impairment. Its purpose is to provide a structured framework that allows the treatment to be customized to individual needs.

Although it shares principles with previous models, ART is not simply a combination of existing approaches but a proposal that structures its application in a systematic and adaptive manner. Although ACT already promotes an idiographic framework, ART operationalizes this flexibility through a progressive, tiered intervention model based on levels of cognitive and functional impairment, thereby enhancing clinical precision. Similarly, Open Dialogue emphasizes the co-construction of meaning within a supportive network, while ART incorporates these processes within a structured therapeutic framework, aligned with psychological flexibility and connection to personal values.

Other models have approached psychosis from similar perspectives. Metacognitive Therapy (Moritz & Woodward, 2007) focuses on modifying cognitive biases, while ART avoids intervening directly in the veracity of beliefs and focuses on the relationship that the person establishes with them. Likewise, Mindfulness-Based Therapy for Psychosis (Chadwick, 2019) has shown benefits in reducing emotional reactivity to hallucinations—a strategy that ART also adopts, but in combination with intervention in support networks and adaptation to different levels of cognitive and functional impairment.

From a broader perspective, ART emphasizes the importance of a multilevel and interdisciplinary approach in psychosis intervention. Beyond individualized care, it considers the impact of the environment on recovery, facilitating connection with support networks and promoting learning within this context. By integrating cognitive and functional impairment into treatment planning—and by involving both the support network and the extended therapeutic team—ART provides a flexible structure that allows interventions to be tailored with greater precision. In this sense, it is not intended to replace existing models, but rather to provide a framework that facilitates their application in clinical practice and optimizes collaboration between different therapeutic agents.

To date, clinical experience with ART has shown promising results in terms of functional recovery and improved quality of life.

However, empirical studies evaluating its efficacy have not yet been published, so its differential impact compared to other models requires more rigorous research. For its consolidation, it will be essential to conduct feasibility, efficacy, and effectiveness studies in different clinical contexts.

The development of therapeutic approaches to psychosis continues to evolve, and ART is presented as a proposal under construction, the refinement of which will depend on the evidence accumulated in the coming years. Its emphasis on functional recovery and the personalization of interventions make it a model with clinical potential, but its consolidation requires rigorous empirical evaluation to determine its efficacy and establish its place within the current landscape of psychosis interventions.

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Conflict of Interest

The authors expressly declare that there is no conflict of interest.

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Book Review

Adolescencias del Siglo XXI. Del Frenesí al Vértigo: ¿Cómo Acompañarlos? [21st Century Adolescences. From Frenzy to Vertigo: How can we Support Them?]

José Ramón Ubieto
Editorial UOC (2024)

This small yet remarkable book could warrant a review nearly as long as the book itself, given the plethora of fascinating topics it addresses. All of this is done without straying from its primary subject: adolescence. In fact, it situates adolescence within the changing context of our society—a society marked by vulnerability (Pérez Álvarez, 2025). The book is about adolescence and, at the same time, it is an X-ray of the 21st century.

To begin with, it speaks of “adolescences” in the plural, reflecting the diverse adolescent experiences and lifestyles, moving beyond an understanding of adolescence merely as a developmental phase explained by evolutionary factors (bodily, hormonal, emotional, cognitive), as it is traditionally considered. Because of this, the book also discusses our society in transformation—arguably, a society that is itself adolescent. In this regard, the introduction presents one of the most significant (and perhaps surprising) novelties of today’s society, which is nonetheless crucial for understanding adolescence: the infantilization of adults and the adultification of children.

The infantilization of adults has been identified by terms that encapsulate this phenomenon, such as “generalized childhood” (Lacan), “kidult” or “child-adults” (Hayward, 2024), and “collective immaturity” (Urra, 2024), as well as the familiar “Peter Pan syndrome.” As the author says: “adults who aspire to behave like adolescents.” Conversely, the adultification of childhood is also recognized in expressions such as “hyper children,” a term coined by the author himself in a previous book in reference to demands and competencies that exceed the child’s years (including, for example, the sexualization of young girls). The result is the “erasure of childhood” and the “adolescent muddle.” And that, essentially, is where we find ourselves.

To understand this erasure of childhood and the extension of adolescence into adulthood (adulthood), the author devotes the first of the book’s two parts to analyzing the keys to the 21st century. He highlights three ongoing social transformations unfolding live, in real time, before our eyes—these are changes that, needless to say, “muddle” adolescence and confuse everyone else as well. These transformations include: the hyper logic captured by the metaphor “from frenzy to vertigo” (from euphoria to dysphoria); the trans phenomenon, broadly conceptualized as the body becoming a battleground for problems that do not originate in it; and finally, the hybrid real-virtual reality in which, as with a Möbius strip, “we enter from the outside (the in-person sphere) and, seamlessly, slide into the inside (the virtual sphere)”. Although this new world offers solutions to the “muddles” it creates, they are false solutions, as the author shows.

In the second part, the book offers real solutions to the complex “adolescent desert crossing”. Here the author brings into play a fine

analysis of contemporary society and the wisdom of clinical practice. The author emphasizes the strategy of accompaniment, but, far from adhering to its more common meaning (which seems like something that anyone could do), he reconstructs this approach in a more professional, anthropologically informed sense (including listening and questioning, as well as conversation and the recovery of rituals).

This great little book embodies the well-known principle—essential for any psychologist, psychiatrist and psychoanalyst worthy of the name—according to which one must act locally, but think globally. This dual local-global perspective is brought into play by the author both in his analysis of society, illustrated with clinical cases, and in his proposed solutions, never losing sight of the desert crossing. If, on the one hand, clinical cases embody the problems of ongoing social transformations by shedding light on them, on the other hand, the interventions, while they must be local—focused on the present case here and now—must also be considered within the broader social context.

The reader is thus guided and accompanied on this double global-local, contextual-clinical plane, moving back and forth between the analysis of society and the centrality of the individual clinical case. The reader will undoubtedly appreciate the apt and precise metaphors that are found throughout the text, for the purpose of clarity, avoiding the clinical technical language that always tends towards pathologization. The selected quotations that introduce each chapter and section, taken from a variety of sources, including young clients seen in the clinical practice, are sure to be appreciated. It is worth repeating, once again, the well-known aphorism, originally applied to physicians and strikingly fitting for psychologists, according to which the psychologist who only knows psychology does not even know psychology. Ramón Ubieto, in this and his other works, exemplifies this double focus: combining social and clinical analysis (global-local), as well as cultural wisdom and psychological knowledge, all informed by his “convicted and confessed” psychoanalytic background.

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Book Review

Sufrimiento y Cambio en Psicoterapia: Teoría, Investigación y Tratamiento [Suffering and Change in Psychotherapy: Theory, Research, and Treatment]

Félix Inchausti Gómez
Editorial Pirámide (2025)

The text reviewed here represents a valuable contribution to the specialized literature in clinical psychology, especially for practitioners in training, integrative therapists, and clinicians working with complex populations within the public health care system. Organized into ten chapters plus two complementary appendices, the manual offers a comprehensive, relational, and rigorous perspective on the processes of assessment, formulation, intervention, and therapist self-care, providing practical tools without losing conceptual depth.

From the outset (the first chapter), the author clearly situates the approach adopted: the term *patient* is privileged not in its passive connotation, but rather in its etymological root meaning “the one who suffers,” thus emphasizing the profoundly human and experiential nature of clinical work. This choice is significant, as underpinning the entire text is a sensitivity to psychological suffering as a multidimensional, intersubjective phenomenon that must be addressed through comprehensive, integrative, and ethically responsible frameworks. Also noteworthy in the manual is the significant influence of Michael Mahoney (1991, 2003, 2005), who serves both as an inspiration and a guiding compass for the author; specifically, a powerful citation from Mahoney appears explicitly at the beginning of the introduction, preparing the reader for what follows:

“Sometimes I feel we are so caught up in the demands of daily clinical practice that we have lost sight of where we come from and what our work is mainly about. Life is complex, and human suffering is far more than a mere abstraction. Psychotherapy is filled with complexity, suffering, and challenges associated with the professional responsibility of understand and counselling lives in constant process. [...] We can often feel as if we are playing ball in a river. Simply staying away from the rocks is challenge enough.”—Michael J. Mahoney (2005)

In Chapter 2, the general principles of change are introduced through a conceptual model of suffering based on three phenomenological levels: symptoms, personality, and maladaptive interpersonal schemas. This multi-layered approach is linked to a

five-phase intervention model that includes safety, emotion regulation, interpersonal exploration, and integration. A theoretical-clinical synthesis is seen here that allows the therapist to navigate the complexity of the treatments without falling into reductionism or rigid protocols.

Chapter 3, focused on clinical assessment and formulation, stands out for its clarity and operability. It emphasizes the necessity of individualized case formulation, integrating symptomatic and interpersonal dimensions with a functional and narrative approach. Clinical formulation is not presented as a static description but as a shared, dynamic hypothesis that guides the selection of techniques and interventions. Additionally, Appendix I accompanying this chapter provides a complete clinical example that is highly useful for training purposes.

Chapter 4 addresses patient factors that influence the psychotherapeutic process, such as coping style, motivation to change, attachment style, religiosity, and spirituality. Recommendations based on empirical evidence are included and the tension between treatment fidelity and adaptation to the uniqueness of the client is discussed with clinical knowledge. This tension, far from being resolved simplistically, is proposed as an ongoing exercise of clinical balance that requires ethical judgment and contextual sensitivity.

One of the most interesting core elements of the manual is found in chapter 5, dedicated to the principles for establishing a relational frame. Through clinical vignettes, microprocessual moments are illustrated in which the therapist strengthens the alliance, validates the patient's experience, and promotes sustained change processes. The dialogue with patient Miriam illustrates how small interventions, framed in a secure relationship, can have a significant impact on the process of change in psychotherapy. This view of change as a cumulative phenomenon, rather than as the effect of spectacular interventions, is one of the strengths of the book in my opinion.

Chapters 6 and 7 expand the perspective on planning, framing, strategies to foster adherence, and the integration of psychopharmacotherapy when appropriate. The importance is highlighted of establishing a coherent therapeutic tone, based on consistency, validation, and empathy. The manual takes a clear

stance against decontextualized techniques or the mechanical application of protocols, proposing instead a flexible, empathic approach based on clinical formulation.

Chapter 8 delves into interventions aimed at improving metacognition, particularly relevant for patients with difficulties in identifying and reflecting on their mental states. Techniques that foster more complex and comprehensive autobiographical narratives are valued, thus contributing to a greater sense of agency, self-coherence (which I call "Self System", see Quiñones, 2024), and emotion regulation. Metacognition is not conceived merely as a cognitive capacity but as an experiential dimension (cognitive and affective patterns) that can be promoted in session within a context of attachment security.

Chapter 9 makes an important contribution by placing the therapist's health in the foreground. In a field where the ideals of dedication and vocation can make professional burnout invisible, this chapter offers a realistic and preventive approach to the risks of clinical work, especially when working with patients with suicidal ideation or severe pathology. It highlights the need to integrate self-care into the therapist's daily routine, preventing it from becoming just another obligation. It also advocates for an institutional culture that legitimizes the professional's care as part of the ethical practice.

The tenth and final chapter synthesizes the book's contents and raises current challenges in the field, such as the need for situated research, evaluation of training methods, and improvement in the quality of clinical supervision. The text closes with a strong defense of quality public psychotherapy, delivered by highly trained and supervised professionals, in clear opposition to pseudotherapeutic practices that trivialize psychological suffering and instrumentalize it from economic logics.

Ultimately, this manual constitutes a solid, well-articulated, and clinically relevant proposal. Although it does not address areas such

as neuropsychology or specialized psychometric assessment, it approaches this from an explicit and honest position, focusing on relational psychotherapeutic processes. Readers with highly structured theoretical orientations or eclectic techniques without a solid relational foundation may find this challenging, but also see it as an opportunity to reconsider the role of the therapeutic relationship, the narrative, and the ethical stance in clinical practice.

In conclusion, "*Sufrimiento y cambio en psicoterapia: teoría, investigación y tratamiento*" [*Suffering and Change in Psychotherapy: Theory, Research, and Treatment*] achieves a rare combination of theoretical depth, clear exposition, and clinical applicability. It invites the reader to reflect on the *how* and the *who* in therapy more than on the *what*, reminding us that techniques alone do not transform suffering. Transformation only occurs when techniques are embodied in meaningful, attuned, and sustained therapeutic relationships. In this sense, the work is especially valuable for clinicians who engage in reflective practice, residency trainers, and psychologists interested in integrative psychotherapy based on respect for human uniqueness.

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